

Resignation

AIR CONDITIONING

INDUSTRY

MERCHANDISING

INSTALLATION

MAINTENANCE

JUL 6 '484

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Nan of the Month.

URN TO PAGE 48

WILLIAM G. ZIMMERMAN Owner Zimmerman Electric Paynesville, Minn.

DON'T MISS:

"HE MADE IT THE HARD WAY"... the first in a series of "personality portraits" of men who have built successful businesses in the refrigeration field





YES! BEAUTY IN DESIGN OF REFRIGERATION EQUIPMENT HELPS MAKE WEBER THE TOP SALES LEADER IN MY TERRITORY!



Q. THEN BEAUTY REALLY DOES INFLUENCE SALES?

A. It sure does. A recent survey by a leading market analysis firm proved beyond doubt that Weber styling is a big factor in its sales success. Don't forget, over 90% of your business comes from women, and they recognize and are influenced to buy through the beauty of Weber equipment. Merchants who are aware of this are naturally buying equipment that attracts the shopper.



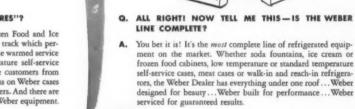
Q. BUT—AREN'T PERFORMANCE AND DEPENDABILITY JUST AS IMPORTANT AS BEAUTY?

A. Frankly, yes. But Weber has both. You get perfectly balanced refrigeration, which means the quality and flavor of foods are absolutely protected. And this, combined with Weber's finer construction, gives a long-lasting, efficient, economical operation that beats competition. The beauty of Weber equipment is the "Big-Plus" no other equipment can match—it's another of the extra features Weber offers to produce greater sales.

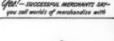


Q. WHAT DO YOU MEAN, "EXTRA FEATURES"?

A. Well, for instance: Weber Roll-A-Door Frozen Food and Ice Cream Cabinets have a patented, non-frosting track which permits doors to roll open at the lightest touch. The warmed service rail on Weber Frozel open-type low temperature self-service cases is a comfort feature which protects the customers from the shock of cold metal. Likewise the toe-recess on Weber cases makes standing comfortable for women shoppers. And there are many other exclusive features found only in Weber equipment.



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for my	business			NT PLA		representative.
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Address						
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BEAUTY-BUILT for a woman's eye ... VALUE-BUILT for a lifetime but

WEBER SHOWCASE & FIXTURE CO., INC. NEW YORK - CHICAGO - NEW ORLEANS - LOS ANGELES

LYNCH Precision Manufacture Builds Dependable PAR Units



Skilled Workmen...Precision Machines...

the first requisites in the manufacture of quiet, efficient condensing units. Illustrated are a few of the workmen and special purpose machine tools fulfilling these requirements in the production of Par Condensing Units.

Par Units are engineered and manufactured especially for the commercial refrigeration field . . . in a wide range of models and sizes from 1/6 h.p. close-coupled units up to 5 h.p. heavy duty commercial units. With Par there's a proper-size,

proper-type unit to permit "tailored-installations"—giving balanced performance for top economy and efficiency. Ask your Par wholesaler for details or write direct for Par Catalog R-99.

Par—Condensing Unit Line sold exclusively through Franchised Refrigeration Equipment Wholesalers.

By Comparison - You'll Buy PAR

LYNCH CORPORATION-

Par Compressor Division

TOLEDO 1, OHIO U.S.A.

JULY, 1948

VOLUME 5, NO. 7

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THE COVER . . . Bill Zimmerman, THE REFRIGERATION INDUSTRY'S "Man of the Month" for July, is a perfect example of a self-made man. Thirteen years ago Bill didn't know which end of a refrigeration system was up. Today he owns his own refrigeration contracting business which handles more than \$75,000 worth of business a year. Turn to page 48 of this issue and read how he built this business from the ground up.

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The personalized biography of Zimmerman Electric, a highly successful	

The personalized biography of Zimmerman Electric, a highly successful refrigeration contracting firm, and of the man who makes it tick. He's Bill Zimmerman, THE REFRIGERATION INDUSTRY'S "Man of the Month" for July.

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HIGH VOLUMETRIC EFFICIENCY

cuto first costs too!

Your customer's food processing or storage job may not need—in physical dimensions—as big a condensing unit as he thinks!

In a General Electric unit—built for High Volumetric Efficiency—each stroke of the compressor piston pushes an unusually high percentage of refrigerant gas into the refrigerating system. There's less gas left behind the discharge valve to reexpand and reduce capacity.

Features in General Electric's High Volumetric Efficiency: Thin valve plate leaves little room for gas behind the discharge valve. Wide-opening, easy-lift valves allow free passage of gas. Pistons ground to .0003-inch accuracy reduce blow-by to a minimum. These features all add up to:

A relatively small condensing unit for a big refrigeration job. Reduction in space requirements. This means, in many cases, substantial savings in first costs by the installation of a smaller, more efficient unit. Plus, of course, the continued, yearafter-year savings in operating costs made possible by power-conserving High Volumetric Efficiency!

For H.V.E. get G-E! See your local General Electric representative. General Electric Company, Air Conditioning Department, Section R8147, Bloomfield, New Jersey.

GENERAL @ ELECTRIC

MAKE A GENERAL ELECTRIC CONDENSING UNIT THE HEART OF YOUR REFRIGERATION SYSTEM

REFRIGERATION AND AIR CONDITIONING EQUIPMENT

.. Offers More to You and Your Customers

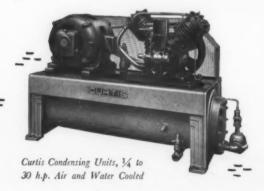


Curtis Packaged Air Conditioner, Capacities 3, 5, 71/2, 10 and 15 tons

For commercial refrigeration or air conditioning applications the complete Curtis line offers more to your customers - in satisfactory, trouble-free performance, sound, proven design and engineering and lower operating and maintenance costs. Curtis advantages include:

- Timken Bearings
- Extra large condensers
- Slow operating speed quiet performance
- The Finest Materials Precision Construction
- · Long Life
- Full range of sizes and capacities

You'll sell more, make more profits when you sell Curtis. Write for full information today.

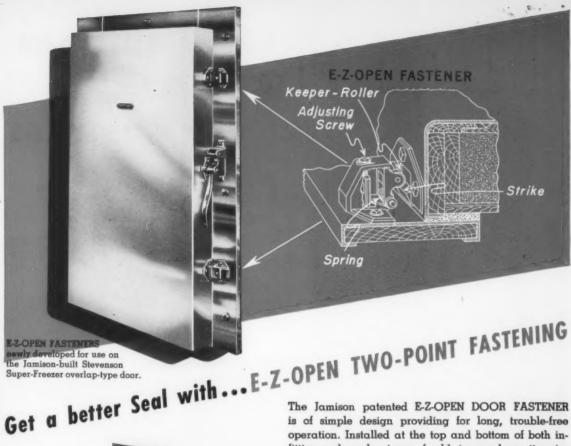


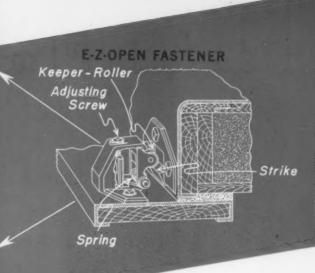


REFRIGERATING MACHINE DIVISION

1915 Kienlen Ave. St. Louis 20, Missouri

94 Years of Precision Manufacturing







Jamison Standard Door equipped with E-Z-OPEN FASTENERS, for moderately low temperatures. (Track Door illustrated)



E-Z-OPEN FASTENERS used on the Jamison Lo-Temp in fitting door for sub-freezing temperatures.

fitting and overlap types of cold storage doors, it maintains positive and uniformly distributed gasket pressure when door is closed.

Only minimum effort is needed to open the door from the inside as well as the outside. Two handle mechanisms operate independently of each other, without a through rod connection.

Write for catalog showing our standard line, or look in the classified telephone directory for our branch nearest to you. Special doors can be built, regardless of size, character or duty, to your specifications.



Builder of Cold Storage Doors in the World

BUILDING for BIG BUSINESS

Pictured above is one of the 25horsepower Wagner Polyphase Motors that drive the compressors in this system. Twenty-eight additional Wagner Motors are used in the complete installation.

Wagner Motors help keep it comfortable...

St. Louis' Continental Building boasts a roster of tenants that reads like "the Blue Book of American Business." One of the reasons why these leaders of industry have chosen this building to house their branch offices, is the fact that they realize how year 'round air conditioning increases employee efficiency.

The air conditioning engineers who installed the system in this building know that a modern "weather plant" can function properly only if it is equipped with dependable, efficient motors. That's why Wagner Quality Motors were chosen for this job, as they are for thousands of industrial, commercial and home applications.

Wagner Motors are famous for their sturdy dependability and efficient operation. If you use motors, it will pay you to investigate Wagner's complete line of motors for a wide range of applications. Users of Wagner Motors also profit by our quick, convenient, nationwide service facilities.

Twenty-nine branch offices, located in principal cities, are ready to assist you, without obligation, whenever you have a motor problem. Write for Bulletin MU-185 for information on the complete line of Wagner Quality Motors.

Wagner Electric Corporation
6442 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A.



Wainer Electric Corporation







Consult Wagner Engineers on all Electric Motor Problems





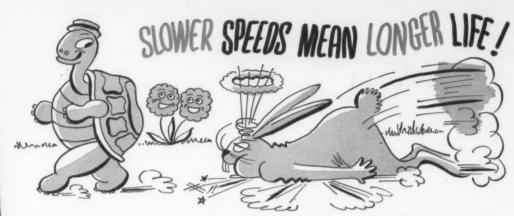
M48-4

. ELECTRIC MOTORS . TRANSFORMERS . INDUSTRIAL BRAKES . AUTOMOTIVE PRODUCTS .



BRUNNER REFRIGERATION helps you serve better

Memo to Shrewd Business Men

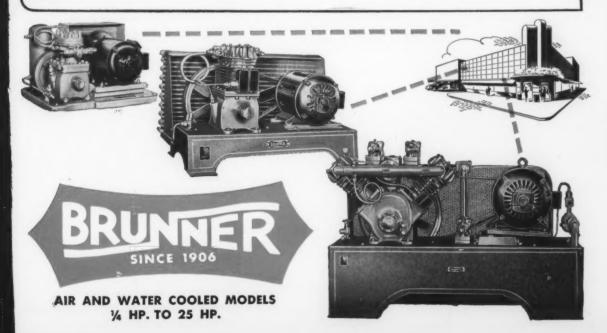


No fairy tale this: you use refrigeration units in your business only because they are essential to a profitable operation. Pump speeds, condensor tubes, suction areas, and other technical contributions to "slower speeds mean longer life" we'll leave to Brunner's factory representative to explain in detail.

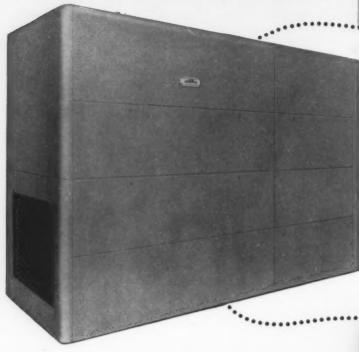
Here is today's version: refrigeration units are too important for hurried selection. Slow up, take time to compare design and construction details. Check the experience of other users. Longer life comes with profitable, worry-free installations; prompt deliveries; long-lasting customer satisfaction. Write us. Spend a few minutes with Brunner's representative and know why plant capacities have been greatly increased.

BRUNNER MANUFACTURING CO.

Utica 1, New York, U.S.A.



...proved versatile



REFRIGERATED AIR CONDITIONING

for
Restaurants
Offices
Theatres
Retail Stores
Hotels
Factories
Institutions
Banks
Professional Clinics
And Many Others!

by the jobs it handles...

Name your job...any air conditioning job requiring capacities from 3 to 40 tons and up...you'll find there's a UsAIRco system designed to perform that job dependably and economically.

Outstanding is the USAIRCO REFRIGERATED KOOLER-AIRE "packaged" system, combining the motor-compressor unit, the conditioning unit, and an evaporative condenser into a balanced, complete air conditioning system. Refrigeration engineers like it because it provides the quickest possible installation of a central system, plus the advantages of a factory-assembled unit.

The USAIRCO REFRIGERATED KOOLER-AIRE has proved again and again that it can give the user the most cooling per dollar . . . proved in installations in theatres, restaurants, retail stores, offices and many other places where better air conditioning is required at a low cost.



UNITED STATES AIR CONDITIONING CORPORATION
Como Ave. S. E. at 33rd Minneapolis 14, Minn.





HAVING TROUBLE COLLECTIONS?

SORRY, I HAVEN'T ANY MONEY TO DAY - COME BACK NEXT WEEK



As a result, there is not enough left to pay lump sums for his refrigerating equipment at the end of the month

Your Answer Is

HE METER PLAN

Your customer deposits only a few quarters a day that he never misses



- LOW IN PRICE
- **FULLY GUARANTEED**
- IMMEDIATE DELIVERY

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 Delinquent Accounts
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 - ☐ Meter Plan for Selling Commercial Refrigeration

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GAIN Universal Cooler pioneers with one of the most revolutionary steps ever taken in the industry. For more than 25 years we have maintained a policy of selling condensing units to manufacturers only. NOW THIS POLICY HAS BEEN CHANGED! We are accepting, and have already granted, franchises from recognized, leading Refrigeration Parts Jobbers for our nationally known, leading line of hermetic and open type condensing units

Increased production facilities have made possible this radical change in our sales policy—one which will be widely acclaimed and welcomed. The Universal Cooler line is the most comprehensive in the field! It offers profit possibilities which are almost unlimited in scope! The name itself is guarantee of complete satisfaction!

Our representative will call and furnish complete details on the advantages of the Universal Cooler Franchise.



TELEPHONE . TELEGRAPH . WRITE

and do it now!



UNIVERSAL

DIVISION INTERNATIONAL

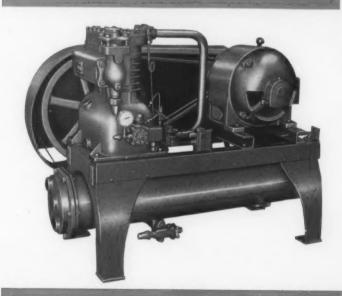
THE REFRIGERATION INDUSTRY



Six hermetically sealed models. Capacitor type in 1/4, 1/3 and 1/2 H.P. (Kit of bar type legs for remoting these models available) Split phase type with valves in 1/8 and 1/6 H.P.

Plus

Open type remote units both air and water cooled. From 3/4 H.P. through 15 H.P.



SEALED AND OPEN TYPE

CONDENSING UNITS

COOLER AUTOMATIC REFRIGERATION SINCE 1922

DETROLA CORPORATION - MARION, OHIO

NEW DOME COOLER





Two-way Dome Cooler with air flow limited to two directions.

The new, improved 148 model of the Peerless Dome Cooler, the cooler that went to war and made a record for distinguished servicel Here, with beautiful spun aluminum casing and the new Peerless Coil, is the proud successor to the 20,000 Dame Coalers that coaled the food for all U. S. Army Cantonments from the start of World War II. In the Dome Coaler, air fram the refrigerator is drawn up in the center of the unit and discharged horizontally along fixture ceiling to drop down the side walls. The Dame Cooler is the ideal unit for maintaining high hu-midities in reach in and walk in coolers. Its installation is a simple operation, it occupies minimum space and it is engineered for correct functioning and long life. Complete with built-in heat exchanger and suction spinner.



Standard Dome Cooler with air emitting in all directions.

Model No.	List Price	Capacities B.T.U. per Hr. at Given T.D. Between Air and Refrigerant			Motor	and Fan I	Bernet	érionics		uil Diman luding Mi		Connections			
		1"	10	20"	Mater H.P.	R.P.M.	Fen Size	C.F.M. Capacity	Height	Width	Depth	Liquid	Suction	Drein	
67	\$59.15	65	650	1300	1/100	1550	8	220	4%	1.8	18	1/2	1/2	. 1/2	
97	70.50	95	950	1900	1 100	1550	8	240	4%	20	20	1/2	1/2	1/2	
127	80.50	125	1250	2500	1/100	1550	10	360	434	22	22	1/2	1/2	1/2	
227	111.45	225	2250	4500	1.30	1000	1.2	560	8)	27	27	1/2	1/2	1/2	
327	143.00	325	3250	6500	1,30	1000	12	520	0	27	27	1/2	1/2	1/2	
457	196.00	450	4500	9000	1/30	1000	16	10.50	0	31	31	1/2	5% -	1/2	
607	235 00	600	6000	12000	1/30	1000	16	1000	8	34	34	1/2	1/6	5/6	
907	285,00	900	9000	18000	1.6	1140	20	1800	13 1/2	43	43	1/2	3/4	5%	
1257	375.00	1250	12500	25000	1/6	1140	20	1700	13 1/2	46	46	1/2	3/4	. %	



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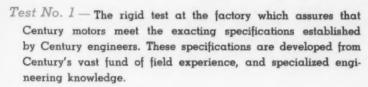
FOR USE WITH FREON, METHYL CHLORIDE AND SULPHUR AS REFRIGERANT.

PEERLESS of AMERICA, Inc.

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Inture MOTORS

Pass All 3 Tests That **Assure Satisfactory Operation**



Test No. 2 — The test of the resale manufacturers who buy and assemble Century motors on the machines they manufacture. These tests confirm the fact that the right Century motor has been selected to match the power requirements of the machine.

Test No. 3 — The test of the Century motor in use in the hands of the final customer. This test proves the ability of properly selected Century motors to provide satisfactory performance.

On thousands of applications, Century motors have proven that they easily pass all three tests — and provide an unusually long life of dependable operation.

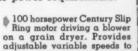
Century builds a wide range of motors, in sizes from 1/6 to 400 horsepower to assure top performance for all popular electric power applications.

Specify Century motors for all your electric power requirements.

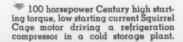
CENTURY ELECTRIC CO.

St. Louis 3. Missouri 1806 Pine St.

100 horsepower Century Slip Ring motor driving a blower on a grain dryer. Provides adjustable variable speeds to meet varying requirements.









150 horsepower Century Squirrel Cage motor driving a hammer mill in a dehydrating plant.







COOLS



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HEATS

HUMIDIFIES





...and June in January!

Whether Nature makes the air too hot and damp, or too cold and dry...Marlo will make it just right for you. These Air Conditioning Units completely process your air: (1) Filter it; (2) Cool and dehumidify it; (3) Heat and humidify it; (4) Circulate it. They're designed to be useful every day in the year ...and quality-built in every detail to stand up under day-in, day-out service.

- For use with any refrigerant or heating medium
- Suspended (C Unit) or Floor (F Unit) types
- Complete range of sizes for all industrial and commercial applications. Send for our new Bulletin 409 for complete details and selection data

Marlo Air conditioning units

MARLO COIL CO. / ST. LOUIS 10, MO.

It's not **HOW MUCH** moisture you remove from a refrigeration system that counts...

SPORLAN

It's **HOW LITTLE** moisture is left!

o really dry a system...install a

SPORLAN

The unique porous cylinder of the Sporlan Catch-All is molded of minute particles of a highly efficient desicant, whose efficiency is greater than that of the same desiccant in granular form.

The Sporlan Catch-All after being completely assembled is activated to a bigh degree of dryness which, in turn, assures drying the system to an extremely low end point.

Immediately after activation, the Sporlan Catch-All is sealed with moisture proof seals so that it can not pick up any moisture before installation.

Due to its molded construction, the Sporlan Catch-All cannot pouder. Therefore, none of the desiccant can pass into the system, causing expensive breakdowns.

Again, due to its molded construction, the Sporlan Catch-All cannot pack. Packing of the desiccant in an ordinary drier causes a high pressure drop, which is never present in the Catch-All.

And again, due to its unique molded construction, the refrigerant cannot channel around the desiccant of the Sporlan Catch-All. All of the refrigerant must go through the molded porous cylinder.

In addition to efficiently drying the refrigerant, the molded perous cylinder of the Sporlan Catch-All will catch all scale, solder particles, carbon, sludge, dirt or any other foreign matter as minute as 9 microns with negligible pressure drob.



THE CATCH-ALL IS AVAILABLE IN %, % AND 1 TON SIZES

... THE PERFECT FILTER-DRIER!

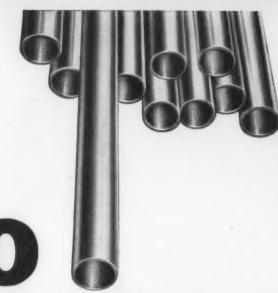
The use of oversize driers does not solve the moisture problem on most jobs. The only real solution is to use a drier that dries down to a low end point... a point so low that any remaining moisture is absolutely harmless!

HERE IS WHY THE SPORLAN CATCH-ALL
IS THE PERFECT FILTER-DRIER

If you want refrigeration systems that are REALLY DRY...install SPORLAN Catch-Alls and get Peak Performance on all installations.

PORLAN VALVE CO.

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** THE CATCH-ALL IS OBTAINABLE AT ALL EPORLAN WHOLESALERS



NIBCO 6 WROT FITTINGS FROM TUBES



Precision-formed from a single tube—without seam or weld—the NIBCO WROT Tee has a smooth interior finish which insures a perfect joint. In addition to tees the NIBCO line of wrot copper fittings includes elbows, couplings, return bends, adapters and unions—everything you need to go with the pipe. All are formed from tubes by the patented NIBCO method. Precision-made to fit, they speed the job and make a quality installation with economical lightweight copper tubes. It will pay to standardize on NIBCO fittings. Mail coupon for catalog.

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Street	
City	State



LOW COST Extreme low price is the result of mass production. The unique design gives maximum capacity per unit of space.

WELL MADE Complete unit constructed of aluminum and copper. No rusting.

The motor is totally enclosed, permanently lubricated, requiring no oiling.

EFFICIENT The radial airflow assures uniform, refrigerator temperature.

SEND FOR CATALOG R-125.

KRAMER TRENTON CO. Trenton 5, N. J.

THERMOBANK COOLMASTER RADIAL UNITS PANEL UNITS CUBERS FINNED COILS BARE TUBE COILS HEAT INTERCHANGERS CONDENSERS Air Cooled Water Cooled Evaporative WATER COOLING EVAPORATORS BLAST COOLING COILS BLAST HEATING COILS



The Right FittingThe Right Fit

Weatherhead Fittings are precision machined to S.A.E. Standards. Threads and bodies are clean cut for exact fits.

You can depend on Weatherhead as a reliable source for a complete range of sizes and types of fittings.

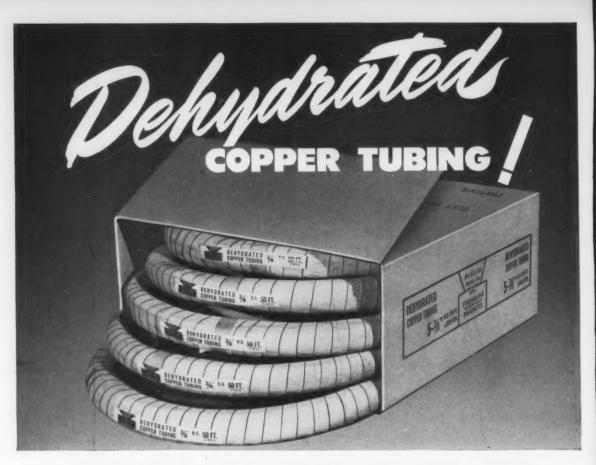


Look Ahead with

THE Weatherhead CO.

CLEVELAND & OHIO

PLANTS AT CLEVELAND, OHIO • ANGOLA, INDIANA • COLUMBIA CITY, INDIANA HOUMA, LOUISIANA • ST. THOMAS, ONTARIO, CANADA



PERFECTLY WRAPPED-SEALED-AND CARTONED-FOR PROTECTION AND CONVENIENCE IN STOCKING-

★ 1/8 THRU 1/4 .030 WALL ★ 5/16 THRU 1/2 .032 WALL ★ 5/8 THRU 3/4 .035 WALL 50 FT. LENGTH5

Mueller Brass Co. Dehydrated Copper Tube Coils are now being cartoned as an added precaution against damage and to facilitate greater ease in handling and stocking.

Within the carton, each coil is carefully wrapped and labeled for your convenience. Our Dehydrated Copper Tubing is consistently bright, clean and as dry as is humanly possible to make it. It is uniformly annealed dead soft so that it can be easily formed, bent or flared without danger of fracture.

ORDER FROM YOUR WHOLESALER

MUELLER BRASS CO.
PORTHURON, MICHIGAN

here's a compact profit-maker for your shop or truck

Gilmer #355

Assortment of **50 Most Popular V-Belts**



This means more profits for you! The foundation of a complete V-Belt department hangs on your shop wall, or in your service truck. It's a carefully selected assortment of the most popular V-Belt sizes-50 Gilmer V-Belts that fill most of your customers' requirements.

In minimum space . . . with minimum investment . . . the Gilmer #355 V-Belt Assortment gives you replacement belts that are famous for accurate fit, firm grip and long life.

With the Assortment you get all the valuable merchandising aids shown below. Order Gilmer Assortment #355 from your Gilmer Distributor . . . or write direct for further particulars.

GILMER POWER SUPPLY CORDS FOR REFRIGERATION SERVICE

Now Gilmer offers a line of heavy-duty supply cords for refrigeration applications. Each cord individually packed in cellophane, comes with complete description on sleeve.

REPLACEMENT CORDS -

in 8-, 10-, 12- and 25-foot lengths. One stripped open end; male plug attached.

EXTENSION CORDS -

in 10-, 15-, 25- and 100-foot lengths. Male plug at one end, female at other.

APPROVED BY UNDERWRITERS' LABORATORIES



Buy through your Gilmer Distributor L. H. GILMER COMPANY, Tacony, Philadelphia 35, Pa.

DIVISION OF UNITED STATES RUBBER COMPANY





Gilmer #355 V-Belt Assortment includes . . .

50 assorted V-Belts and 8-hook metal wall rack.









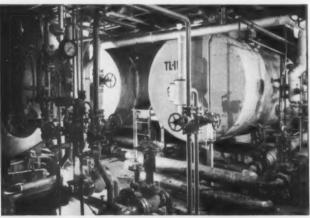


ANNOUNCES

Production Capacity Increased SIXTY Per Cent!



Ton drums containing first "Freon" from new plant are loaded on flat car.



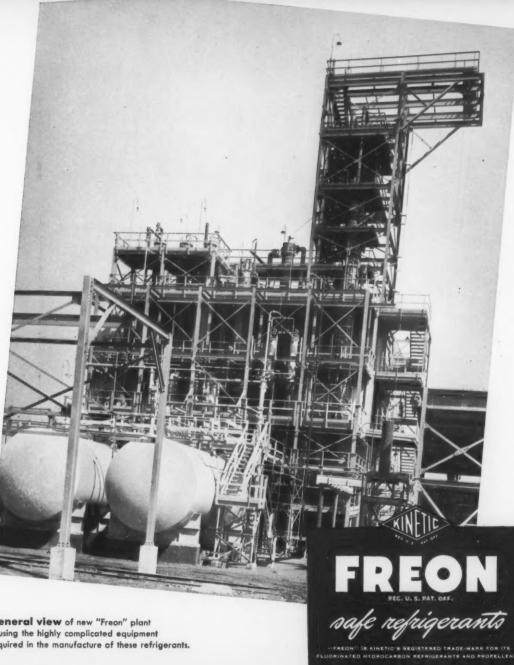
Tanks, pipes, valves, pumps, gauges—a view of plant interior shows type of equipment used to produce "Freon."

A new, completely modern plant to manufacture "Freon" safe refrigerants and propellents recently began operations at East Chicago, Indiana. Estimates indicate it will increase production capacity of "Freon" sixty per cent.

Construction of the new plant began last August and a staff of experienced production supervisors aided in speeding the installation of equipment. Production line shipments of "Freon" in ton drums have already started.

Now that ample "Freon" will be available to meet the steadily growing demand for these refrigerants and propellents, it will no longer be necessary to build up individual stock piles. However, the shortage of cylinders in which to ship "Freon" continues, and empty cylinders are still urgently needed to meet current demands.

Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington 98, Delaware.



General view of new "Freon" plant housing the highly complicated equipment required in the manufacture of these refrigerants.

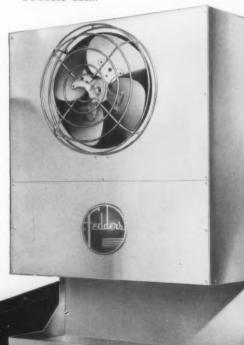
MOU GET GUALITY WHEN YOU GET FEDDERS



• Dig into the specifications and you will see why you get better quality and better performance. New china-white finish... non-ferrous, non-corrosive cabinets... screwed casings—no spot welding... bottom pans well insulated... oversize drain ... all copper cooling element, 100% tin plated... flanged fins with tubes hydraulically expanded... capacities balanced with popular size condensing units at 15° TD... oversize face area, low outlet velocity for minimum drying and shrinkage... heat exchangers add to system capacity.

UNIT

• Full lines of well-graduated sizes including popular smaller sizes are available to fit wide range of requirements. Designed right . . . built right . . . priced right. Write for latest Fedders data.



FEDDERS-QUIGAN CORPORATION

BUFFALO 7, NEW YORK



You're all set ...

HERE'S the Copper Refrigerator Service Tube that's EXTRA THIS extra soft tube is easily worked to SOFT!



This extra soft tube is easily worked. New, uniform temper makes it easy to bend and flare. It is given automatically controlled anneal which assures clean, bright, oxide-free tube. New end seal keeps tube clean. Fits anywhere tube does—need not be removed until ready for fitting connection. Sizes ½ to ¾ diameters; in 50' standard lengths.

A.

... HERE'S the octagonal package that's EXTRA HANDY!



This extra handy package prevents two-layer coil of tube from shifting—maximum protection with minimum weight. Saves shelf space. May be reused for keeping cut coils clean and identified. Specifications are easily read on a large size label.



Copper Fitting for joints that are



CHASE Wrought Copper Fittings expand and contract with the tube ... joints are permanently tight! They fit the tube accurately—there are no inside ridges to hamper refrigerant flow.

EXTRA TIGHT!



Ask your parts distributor for Chase Extra Soft Copper Refrigerator Tube in the extra handy package. And be sure to specify Chase Wrought Copper Fittings...they're not affected by ordinary vibration or pressure. That's the combination for better, longer-lasting connections.

Chase

7

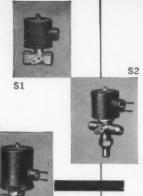
the Nation's Headquarters for BRASS & COPPER

SUBSIDIARY OF KENNECOTT COPPER CORPORATION

THIS IS THE CHASE NETWORK . . . handlett way to buy bross

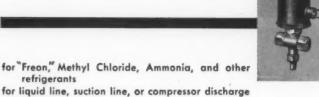
ALBANY! ATLANTA BALTIMORE BOSTOM CHICAGO CINCINNATI CLEVELAND DETROIT HOUSTON: INDIANAPOLIS KARSAS CITY, MO. LOS ANGELES MILWAUKEE MINNEAPOLIS NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGN PROVIDENCE ROCHESTER; SAN FRANCISCO SEATTLE ST. LOUIS WATERBURY (Handrofel Sale) Chicago Dely)

ALCO SOLENOID VALVES THE COMPLETE LINE





МЗ



for brine, water, steam, gas, air, oil

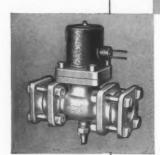
for all types of electric current; small commercial valves with dual voltage

for wide range of connections: %'' to 2%'' solder, %'' to 2'' pipe thread

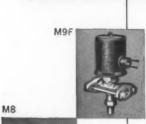
for use with thermostats, timers, and many other control devices

Available at your wholesaler's.

For full details send for proper bulletin by stating intended use of valve.



R2, R6







B

M915



ALCO VALVE CO.

843 KINGSLAND AVE. . ST. LOUIS 5, MO.

Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulaters; Solenoid Valves; Float Valves; Float Switches.

LETTERS

Frozen Food Facts Furnished

THE REFRIGERATION INDUSTRY:

Your publication has been suggested to me as one containing a vast amount of valuable information in the field of frozen foods.

I am engaged in a personal survey of the frozen food industry and the markets thereto. In order that I might obtain a vivid picture of the industry and all the statistics regarding frozen foods, I would appreciate having a recent copy of your publication together with other literature, data, and statistics you feel would be pertinent.—Charles F. Pearson, Chicago, Ill.

An analysis of the present and future equipment requirements of the frozen food industry was published on page 36 of the September, 1947 issue of THE REFRIGERATION INDUSTRY under the title of "The Frozen Food Equipment Picture."—Editor

Who Makes Apartment-Size Units?

THE REFRIGERATION INDUSTRY:

In your new products listings in the February issue of The Refriceration Industry you show two refrigerators in which I am very much interested. They are a 5-cu. It. "apartment size" household refrigerator made by Stoddard Mfg. Co. and a 3½-cu. It. "Lo-Boy" household refrigerator made by Paley Mfg. Co. I would appreciate it very much if you would send me the complete addresses of these companies.—Dennis Gunnerson, Gunnerson Service Shop, Laramie, Wyo.

THE REFRIGERATION INDUSTRY:

Could you please send me the addresses of the following companies mentioned in the new products listings in the February issue of The Refrigeration Industry?—Edgar Gustafson, A.B.C. Electrical Service, Greeley, Colo.

The address of Stoddard Mfg. Co. is 617 Fourth St., S.W., Mason City, Iowa. The address of Paley Mfg. Corp. is 214 Herkimer St., Brooklyn 16, N. Y.—Editor.

Bookkeeping for Contractors

THE REFRIGERATION INDUSTRY:

Back about a year ago, or possibly it was even longer ago than that, there was a series of articles in your magazine explaining a method of handling the book-keeping end of contracting jobs in progress. It listed the amount the job was sold for, all the sub-contractors, all the merchandise and how used, amount of labor, partial payments from the purchaser of the equipment, and payments to the sub-contractors as the work progressed.

I am interested at this time in either



SAVE THAT DOOR! Use THORS to help prevent sticking doors. An average freezer door's treatment with THORS costs about four dollars a year. That's mighty cheap, especially when you know how THORS helps save your doors, cuts down time loss and repairs.

THORS is a clean, odorless, semi-solid product and will not affect most gasket materials. The first application of THORS should cover jamb and gasket thoroughly. One application lasts for weeks—all you have to do is brush off the light snow that forms around gasket leaks. You do not apply THORS again until after 5 or 6 brushings.

THORS is also recommended for the doors on refrigerator trucks.

Save money—cut down defrosting time by about two-thirds. Reduce labor costs by applying THORS on your refrigeration coils and plates. One application lasts for several defrostings.

THORS will not corrode black iron, alloy, steel and galvanized metal surfaces.

THORS

YOU CAN'T LOSE!

For further information, mail coupon or consult your supply dealer.



STANCO INCORPORATED 216 W. 14th Street, New York 11, N. Y.

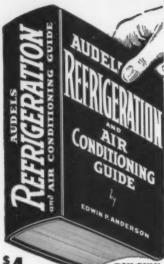
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Address

Ask to See It



AUDELS REFRIGERATION & AIR COMPILETE

AUDELS REFRIGERATION & AIR COMDITION-ING GUIDE Answers Your Questions on Bosic Principles, Servicing, Operation and Repair of Household Refrigeration—Special Refrigeration unlis-Commercial and Industrial Refrigeration—Air Conditioning Systems—Over 1220 Pages, 46 Chapters, 700 Illustrations—Diagrams including data on Freen, Quick Freezing, Lockers and Water Coolers. A new timely book containing practical facts and figures or Better Service. Easy to understand and Handy Ready Reference. Step up your own skill with the facts and figures of your trade. Audels Mechanics Guides contain Fractical Inside Trade Information in a handy form. Fully Illustrated and Easy to Understand. Highly Endormed. Check the book you wast for 7 days Free Examination.

Bend No Money. Nothing to pay postman.

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LETTERS

getting hold of those old copies or of having the opportunity of looking over your file copies, as I would like to familiarize myself with the procedure with a possible chance of incorporating the ideas in our business practice. Anything you can do to help me on this will be much appreciated.—Emil F. Flanik, Allied Refrigeration Corp., Cleveland, Ohio.

Further information on this accounting system for contractors may be obtained by writing directly to the company which developed this system and which prepared this series of articles for us. The address of this firm is: Tallman Robbins & Co., 314 W. Superior St., Chicago, Ill.—Editor.

Attention, Manufacturers!

THE REFRIGERATION INDUSTRY:

We now have as part of our Adult Training Program, which is at the present time made up of veterans of World War II, a course in Refrigeration in the Athens Public Schools System. We are trying to give these men their training and an understandable knowledge of all makes of refrigeratiors and refrigeration equipment.

We shall greatly appreciate it if you will send us any related material such as charts, diagrams, or visual aid equipment which you feel would be of benefit to those taking this course. If there are any charges for this instructional material, they should be billed to the Athens Adult Training Program, Board of Education, Box 375, Athens, Ga.—Charles R. Cox, director, Vocational Education, Athens Public Schools.

THE REFRIGERATION INDUSTRY:

We would appreciate any help you might give us in obtaining educational materials for use by our Refrigeration and Air Conditioning classes. We are especially interested in obtaining audio-visual aids to teaching, such as movies, mock-ups, charts, etc.—Mrs. Mercia C. Pike, librarian, South Carolina Area Trade School, Columbia Branch, Route No. 2, West Columbia, S. C.

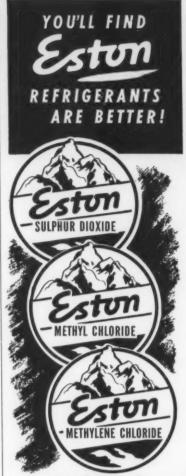
These two schools obviously would appreciate receiving any such educational aids as they describe from any manufacturers who may have such materials available for this purpose. We suggest that these materials be sent directly to the two schools making the requests.—Editor.

For the Rumpus Room

THE REFRIGERATION INDUSTRY:

Is there a unit available that can be used in a small rumpus room home bar which will make a sufficient number of ice cubes to warrant its purchase? I have in mind a unit that is noiseless, or comparatively noiseless, and inexpensive.—Harry E. Gould, New York City.

A unit of this type is manufactured by Supreme Metal Fabricators, Inc., 27-45 Rodney St., Brooklyn 12, N. Y.—Editor.

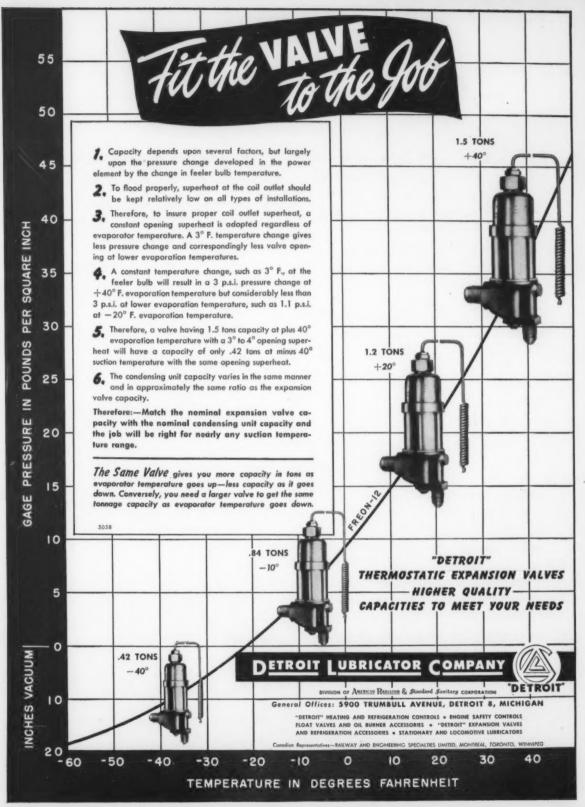


Distributors of FREON II-12-22-113

Years of use in all types of refrigeration equipment have proven Eston refrigerants are superior. All are of sustained high quality with exceptionally low moisture content. Servicemen say Eston refrigerants give better performance and more efficient operation. Eston jobbers are conveniently located. Write for complete information.

In the West it's Eston for Refrigerants





Artkraf

ANNOUNCES THE

BEV-COOL

A Bottle Cooler That can be Operated Wet or Dry

- EFFICIENT
- ECONOMICAL
- STURDY
- SIMPLE TO SERVICE

Sold under factory warranty

Test boxes operated in our laboratory at 90° ambient required only 21% running time idle and 49% running time loaded to maintain operating temperatures. Cold control at midsetting showed 33° water temperature when operated as a wet cooler and 38° air temperature when operated dry. Operating costs computed on the basis of our experience with test boxes operating for 16 hours per day under load at 2c per k.w. indicated probable operating expense of \$1.00 per month or less.

SPECIFICATIONS:

CAPACITY SIZE FRAME

CABINET

INSULATION TANK

REFRIGERANT CONDENSING UNIT

SHIPPING WEIGHT

5 cases bottles standing or 10 cases of same corded. 36" x 42" x 27". All welded steel construction. 20 ga. C.R. steel welded seams bonderized for rust

20 ga. C.R. steel welded seams bonderized for rust proofing. Hi-Baked Dulux. White or Silver Blue (choice of color on quantity

rtkrat

MANUFACTURING CORPORATION

orders).
3" Spun Glass-Sealed Cavity.
Pure Copper Sheet with coils attached to sides and
bottom to assure fast conductivity of heat units.
18-8 Stainless Steel.
Stainless Steel, Two Slide-Overlapping.
Freon 12.
Fan Cooled Hermetic 1/5 H.P. 115 V, 60 Cycle,
Permanently Oiled.
340 lbs.

COMPANION

BEV-FOOD

THIS COUPON FOR YOUR CONVENIENCE

Arthraft MANUFACTURING CORPORATION 300 Kibby Street Lima, Ohio, U.S.A.

- ☐ Please send the name of the BEV-COOL distributor in this territory.
- Please send details of distributor's franchise.

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MANUFACTURERS OF THE FAMOUS Arthraft * BEV-LINE



LOW BOY



300 Kibby Street

BEV-COOL



Lima, Ohio, U.S.A.

BEV-FOOD



BEV-ETTE



BEV-GIANT



MAYTAG HOME FREEZER



Manufacturers of the famous Maytag Home Freezer, Artkraft Bev-Food Beverage Cooler and Food Refrigerator, Artkraft Signs for National Advertisers, Artkraft Low Boy Table Top Refrigerator, Bev-Giant Cooler, Bev-Ette Office Beverage Cooler, Bev-Cool Bottle Coolers for Dr. Pepper, Double Cola, Whistle, Vess Cola, O-So Grape, B-1, Red Rock Cola.

* Trademark Reg. U.S. Pat. Off.

Artkraf

EV-FOOD The Only



COMBINATION FOOD and BEVERAGE COOLER THAT CAN BE OPERATED WET OR

> A high quality, self-contained "plug-in" unit that offers the lowest cost per cubic foot usable refrigeration space in this size range.

Suggested retail price only

Each compartment can be used entirely for dry refrigeration. Top opening prevents "spill out" of cold.

SPECIFICATIONS

Sealed cabinet: 65%" x 38" x 291/2".

Sealed cabinet: 65\%" x 38" x 47\/2.

Solid 3" insulation—Vermin-proof.

Top compartment: 35\%" high x 20\%" wide x 15\/2" deep.

(Slightly over 6\/2 cu. ft.)

Food compartment: 21\%" wide x 28\%" high x 20\%" deep.

(Slightly over 7\/2 cu. ft.)

Finish: Exterior—Silver Blue. Interior—Porcelain cnamel. Top and 2 sliding covers, stainless steel.

Condensing Unit: ¼ H.P., twin-cylinder air cooled. Equipped with Tecumseh, or Copeland unit.

Motor: 1/4 H.P., 60 cycle, single phase, 1750 r.p.m. 110 volts, capacitor

Refrigerant: F-12 Freon.

Automatic light in food compartment.

8-point cold control.

FOR IDEAL

RESTAURANTS ROADSIDE STANDS DAIRY STORES HOTELS HOTELS
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DELICATESSENS
CANDY STORES
DRUG STORES

"The Bev-Food also restores and keeps cigars and cigarettes in perfect condition indefinitely."

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Ask your distributor for this great profit-maker, or write us for his me. Distributed in many areas by G.E. Supply Corporation.

DISTRIBUTORS

Write for details of franchise for open territory.

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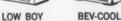
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MANUFACTURERS OF THE FAMOUS Arthraft * BEV-LINE







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MAYTAG HOME FREEZER



UALITY PRODUCTS FOR OVER A QUARTER CENTUR

Manufacturers of the famous Maytag Home Freezer, Artkraft Bev-Food Beverage Cooler and Food Refrigerator, Artkraft Signs for National Advertisers, Artkraft Low Boy Table Top Refrigerator, Bev-Giant Cooler, Bev-Ette Office Beverage Cooler, Bev-Cool Bottle Coolers for Dr. Pepper, Double Cola, Whistle, Vess Cola, O-So Grape, B-1, Red Rock Cola.

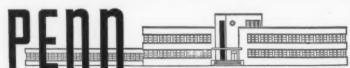
* Trademark Reg. U.S. Pat. Off.



They're new...compact...convenient to install. They're precision-built to provide fast opening and closing of contacts. They're sturdily built, to meet severest operating conditions, to give long life and maintenance-free operation.

Overload relays are adjustable for automatic or manual reset. The middle illustration above shows how simply this is done by merely changing the spring position. To prevent food spoilage, automatic reset in refrigeration applications is often necessary. In other automatic installations safety requires lock-out until relay is manually reset.

Available with Type 1 enclosures or as open type models for control panels. Complete panels, including the appropriate Penn automatic control for pressure, temperature, and humidity regulation, are ideal for air conditioning and refrigeration service. Built in sizes 0, 1, and 1½. Ask your wholesaler, or write now for Bulletin 2705 containing detailed information. Penn Electric Switch Co., Goshen, Ind. Export Division: 13 E. 40th St., New York 16, U.S.A. In Canada: Penn Controls Ltd., Toronto, Ontario.



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS



Locker Convention A "Hit" THE Frozen Food Locker Institute
has announced that within two
weeks of the mailing of the brochure
announcing exhibit plans for the
forthcoming National Locker Con-

vention, to be held at the Sherman Hotel, Chicago, Oct. 25-28, approximately one-half of the exhibit space has been reserved.

The Institute and the National Frozen Food Locker Association are combining their efforts to make this year's show the largest and best attended of all those held since the inception of the national conventions in 1939. Chicago's central location, plus the fact that nearly 1,000 rooms are being reserved at the Sherman, are expected to help boost attendance at the event. Last year's popular clinics will be repeated, and new features of practical interest to locker operators will be inaugurated.

Cool Sweet Deal OUT Omaha way, the Mid-West Popcorn Co. is promoting the new "Pick-Ups" refrigerated automatic candy dispensers, machines that hold 500 candy bars and so re-

quire servicing less frequently than many others previously on the market. The machine has a self-contained Kelvinator refrigeration unit.

The machine is being leased to persons who want to go into business for themselves. It's figured that 25 machines, properly located, will average better than 100 sales apiece daily, giving the operator a net profit of \$11,250 a year above operating expenses. An initial investment of about \$5,000 is required to get started, with the promoter financing a portion of the deal.

Farm Business Booms THE farm market for refrigeration equipment has never been better than it is today—and from the looks of things, it's going to stay good for at least another five years. Speaking

at the recent Missouri Valley Electric Association Sales Conference, W. E. Saylor, manager of Kelvinator's rural market and utility divisions, cited surveys by REA, EEI and *Country Gentlemen* as an indication that over 5 million farm homes will be electrified by 1954.

What this will mean in terms of refrigeration equipment sales is shown in the following market estimates:

On electric refgrigeration, estimated number of units now in use on farm homes is 1,575,000, a 45% satura-

tion. Sales in the next five years are expected to total 2,343,500 units, bringing total users to 3,918,500 and saturation to 75%.

On freezers, sales in the 1948-1954 period are anticipated at 1,897,500 units, bringing the total number in use on farms from 192,500 to 2,090,000, and saturation from $7\frac{1}{2}\%$ to 40%.

On milk coolers, sales in the next five years are estimated at 921,250 units, which would boost usage totals to 1,306,250 units and saturation to 25% from present totals of 385,000 and 11%.

Now They're "Spurchases" S PUR-OF-THE-MOMENT buying decisions are no longer called "impulse purchases"; not, at least, by packaging specialists of the Du Pont Co.'s cellophane division. Now,

they're "spurchases".

But no matter what you call them, here are some facts about these purchases that the Du Pont market research

division has dug up:
In super-markets, 38.2%, or about two of every five purchases, are in the unplanned category. In service type stores, where there is less open display and variety, 29.9%, or about one in three purchases, represent unplanned buying. When it is pointed out that Americans made more than 100 billion purchases in food stores last year and spent the staggering sum of \$28 billion in so doing, the percentage of "spurchases" takes on added importance.

It ought to make good selling ammunition, too, for added use of the new "serve yourself" type of refrigerated cases.

Cooler Copper Mining TO BRING Temperatures of 158 F., which frequently occur in its mine shafts nearly a mile underground, down to reasonable levels, the Magma Copper Co. is installing a

million-dollar addition to its mine air conditioning system at Superior, Ariz. Thought to be about the hottest in this country, the Magma copper mine is being enlarged. It is already one of the world's largest copper producers.

Included in the new installation are air conditioning units located in the mine itself, flexible ducts to carry air to the workers, and a large cooling tower at the mine head. Several refrigeration units of approximately 200 hp capacity are being installed in the mine, each being able to supply 25,000 cfm to the mine shafts.

Six refrigeration machines have already been in operation at the mine.

Making It Easier To Trace 'Em TRACING wires in electrical circuits is simplified with a new spirally striped wire, coated with non-flammable, tough plastic insulation. The insulation is colored with

from one to three stripes by inks also made from plastic resins. Using the nine Army-Navy specified colors for the insulation and for the stripes, a maximum of 1120 distinctively coded combinations can be made. The striping, becoming an integral part of the insulation, will not peel or crack and resists abrasion.



Gannon College students drop in for a quick bite at the well refrigerated snack bar installed in the school's administration building by the Arthur F. Schultz Co., Erie, Pa. refrigeration contractor.

Refrigeration goes to

YOU don't necessarily have to go to college to be a refrigeration contractor, but you can make good money by going to college after be-

coming one.

If this doesn't sound like sense, just stop to consider the many ways in which the average college can put refrigeration equipment to good use . . . and then go out and get acquainted with a few of these potential customers.

Typical of the kind of installation which almost any college requires is the "snack bar" setup installed at the Gannon College, Erie, Pa., by Arthur F. Schultz Co., Erie dealer for General Electric and Leitner equipment. This snack bar is designed to serve the college's 1300 day and night stu-

dents, and to operate from 8 a.m. until 10 p.m.

The Schultz firm specializes in food service installations, and merchandises a complete line of equipment for such jobs, including everything from the refrigeration equipment and

cooking equipment down to such minor but important items as pots and pans, cups and plates, and tables and chairs.

The Gannon College snack bar is typical of the compact, well laid out food service systems which the

This plan view indicates the relative location of the snack bar's refrigerated areas and the machines which service them.

	73 H.D. FOUNTAIN COMPRESSOR	1/3 H.P. FOUNTAIN COMPRESSER	Vs H.P. SALAD REFRIG. COMPRESSOR	CARBON ATOR FOR FOUNTAIN	% H.P. BEVERAGE COOLER COMPRESSOR	
URN STAND	SAL	AD REFR	IGERATOR	EQUIPM	ENT STAP	10
TWO HO		F	UNTAIN		URN STAND	BEVERAGI

Schultz organization is equipped to install.

The college already had a fullscale cafeteria, but the school officials decided that something in the way of a short-order lunch counter was needed for students who wanted to grab a quick bite between classes, or for late risers who needed at least a cup of coffee before their morning class.

Consequently, when some remodeling was being done on the school's administration building, it was decided to install the snack bar on that building's ground floor.

Layout of the snack bar is shown in the accompanying diagram and photographs. An 18-foot service counter was run across the full width of the room in which the snack bar was installed. Incorporated into this service counter is a two-hole sink, a Stanley-Knight soda founutain with provision for storage of 50 gallons of ice cream, a coffee urn stand, and an 11-case Leitner bottled beverage cooler.

The back bar, composed entirely of Leitner "Add-A-Section" equipment, consists of an urn stand, a counter-high reach-in type salad re-

ollege

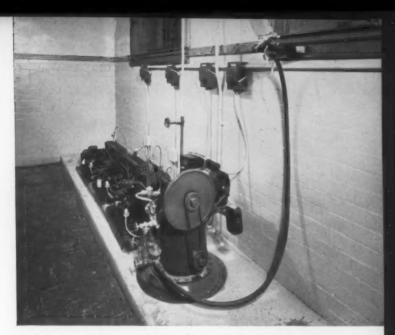
frigerator, and an equipment stand (or "Add-A-Chef" unit) for cooking purposes.

A 5-foot working area was provided between the service counter and the back bar to assure ample space for efficient operation of the snack bar's three-man crew.

All compressor equipment for this installation, plus the Bastian-Blessing carbonator unit for the soda fountain, was installed against the inner wall of the building at the rear of the back bar. All compressors and the carbonator were mounted on a specially constructed concrete platform 2 feet wide and 4 inches high to keep them out of the way of mop water when the area is being cleaned.

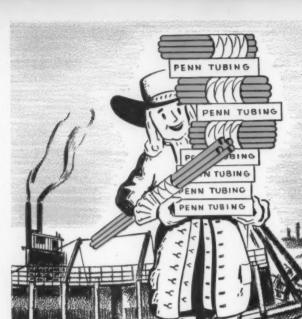
Tables and chairs for more lei-Continued on page 55

The snack bar's chef examines a stalk of celery as he removes it from this Tyler reach-in box in the adjacent kitchen.



Neatly lined up in this well scrubbed machinery room are the condensing units which cool the snack bar's refrigerated fixtures. Note the built-up concrete base which keeps the machinery clear of mop water.





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The new, modern, metal package protects Papco flaring equipment. For the best cutting and flaring tools, get Papco. Buy the kit or buy either tool, but always buy Papco. Order yours today.

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Cool Profit FROM Cool Water

Selling and servicing water cooling equipment for both human comfort and industrial processing has developed into a lucrative enterprise for this Indiana merchant

GEORGE M. STONE and his employees at G & E Refrigeration Service Co. in Indianapolis, Ind., probably drink more cold water than any other people in town.

The G & E firm specializes in the sale and repair of water cooling equipment of all types. In connection with this work it maintains in its service shop a testing line for self-contained water coolers on which a number of units can be tested simultaneously. And as Stone sagely points out, the only way you can test a water cooler is by using it, so every member of the organization automatically stops for a drink every time he passes this line of coolers, and reports any discrepancies he may notice in the operation of the unit which he uses.

These cooling drinks are not the only refreshing thing about the G & E company's business, however, for Stone has managed to make a good thing out of a phase of the refrigeration business which many cooling contractors shun like the plague. While the company operates as a general refrigeration service organization, better than 50% of its business stems from the sale and service of water cooling equipment.

George Stone started this specialized water cooler business several years ago in partnership with a fellow whose first name was Ermel (hence the G & E name), but since 1940 has operated it entirely on his

own. Prior to forming his own company, Stone had spent some 12 years handling all commercial service for the local General Electric distributor, and it was during this period that he acquired his thorough background of refrigeration fundamentals and first recognized the profitable potential of the water cooling field.

The company now handles sales of the G-E and Kelvinator lines of packaged water coolers, as well as han-

dling the installation of customengineered water cooling systems for virtually any application. A complete stock of G-E and Kelvinator parts is carried, and these are adapted to other coolers when the need arises.

No holds are barred when it comes to service, and all makes are tackled, whether they are packaged units or central-station type of systems.

Very little of a trade-in problem is encountered, Stone reports, for while most of the firm's business lies in replacement sales the great majority of water cooler users seem prone to use their equipment until it almost literally falls apart and has no trade-in value whatever. What used units are taken in trade are completely reconditioned in the G & E shop and then sold for about one-half of their original price or less.

Greatest market for the sale of water coolers, Stone has found, naturally lies in business offices and industrial plants, but he also has found institutions such as churches, schools, hospitals, hotels, and lodge halls to be a fairly fertile field. The firm handles bottle-type as well as pressure coolers, but has found that there is a demand for the bottle units only from small offices where no pumbing facilities are available.

The trend toward individual packaged units and away from the remote type of systems is growing stronger every day, according to Stone. Customers are finding that the cost is

Continued on page 82

George Stone surveys his stock in trade in the sales room of his water cooler shop. One of the units is new; one is a reconditioned trade-in. The cases contain replacement parts.





This remodeled building houses a 680-locker frozen food storage plant, complete with chilling, aging, meat processing, bulk storage, curing, and lard rooms, together with a smoke house. It is owned and operated by L. E. Smith, a longtime commercial refrigeration specialist, and his son, Robert, a veteran of World War II.

The Voice of Experience..

. . . guided this veteran of the commercial refrigeration field when he set out to build and equip a frozen food locker plant for the benefit of his war-veteran son. His cooling know-how helped make this plant a model installation

A FROZEN food locker plant with all the aspects of a "model" cross-road-community installation—small and compact in design, yet equipped with adequate facilities to handle a substantial volume of business—has been opened in Englewood, Ohio, near Dayton, by L. E. Smith, longtime Frigidaire commercial refrigeration expert.

Operated by the owner's son, Robert, a returned Army veteran, the plant houses chilling, aging, meat processing, bulk storage, curing, and lard rooms, in addition to storage lockers and a smoke house.

Like thousands of other locker operators, the Smiths found that a brand new custom-built building was not necessarily essential to the establishment of a modern, locker plant. Instead they saved considerable time,

effort and expense by finding a suitable structure that could be remodeled to suit their needs. Once the building was selected, everything in the plant was planned with the greatest of care.

Locker Room Specifications

Housing 680 frozen food storage compartments, the locker room itself, including the walls, floor and ceiling, is insulated with 6-inch corkboard. In addition there are 4 inches of fiber glass insulation between the studding and outside exposed walls and between the ceiling joints. The attic space is ventilated.

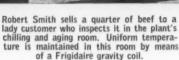
Individual locker compartments, 24 inches by 15 inches by 30 inches, average $6\frac{1}{4}$ cu. ft. of storage space each. Of the total number of lockers,

there are 66 of two-compartment size reserved for overflow. Locker compartments are mounted seven tiers high with the four lower levels equipped with drawer-type facilities for the sake of customer convenience.

Storage temperature of the locker room is maintained at zero degrees Fahrenheit by eight banks of plates refrigerated by a 5-hp Frigidaire water-cooled compressor. Defrosting is accomplished by hot gas, one bank of plates at a time.

Also located in the locker room is a special quick-freezing unit consisting of 10 plates, each of which is 9 feet long and 22 inches wide. These plates are housed in a cabinet constructed of fir and protected by two inches of insulating board. Because the freezer plates are isolated from locker room air, there is little frost accumulated.







No modern butcher shop is any better equipped for cutting and wrapping steaks, chops, and roasts than is the meat processing room of the Englewood plant. Overhead tracks facilitate meat handling.

Freezing is accomplished at —20 F. Refrigeration for the freezer is supplied by a 3-hp Frigidaire compressor. The freezer cabinet is equipped with service doors and lock hardware. Wire freezer baskets hold approximately 25 pounds of meat, permitting a minimum of handling as the prod-

uct moves from the meat processing room to the locker itself.

Gravity Coils Used

Gravity coils equipped with special baffles and connected to a 1-hp Frigidaire compressor refrigerate the chilling and aging room. A summerwinter control insures positive room temperatures during all seasons of the year. Smith says that gravity-type cooling coils cause only a minimum loss of weight for meats during the aging period. Aging ordinarily ranges from a few days to a maximum of two weeks, depending upon the individual customer requirements.

Complete Processing Room

The meat processing room, like the modern butcher shop, is completely equipped. There are cutting and wrapping tables, a $1\frac{1}{2}$ hp meat cutting machine, a 2-hp food chopper, and packing house track scales. Other equipment includes an automatic water heater and porcelain tubs.

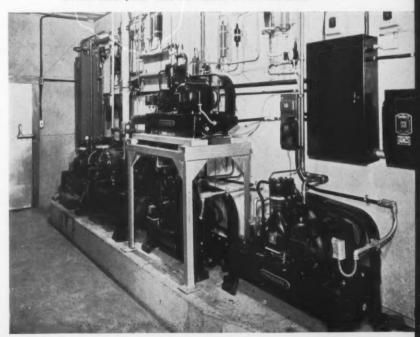
Zero temperatures are maintained in the bulk storage room by a Frigidaire forced-air unit, and a 3-hp compressor. Finned coils are defrosted by a Kramer Thermobank. Adequate space for blast-freezing products is provided. The curing room is also cooled by a Frigidaire forced-air unit, connected to a 1-hp compressor.

In the smoke house and lard room is a large meat smoking cabinet measuring 4-by-6-by-8 feet. This unit is insulated with 3-inch rock wool and is gas-fired. Temperatures are governed by an automatic control. A 60-gallon lard kettle, steam jacketed and

gas-fired, is also part of the equipment, together with a 25-gallon lard press.

Water for operation of the plant is supplied by an electric pumping system from a driven well outside. A sizable graveled parking lot is provided for automobiles and the surrounding grounds have been landscaped, providing a scenic setting for this model locker plant.

This battery of reciprocating-type Frigidaire compressors supplies all refrigeration for the Smith's locker plant. Note the neatness of the installation.



ABOUT People

William R. McShane, purchasing agent since 1945 for Koch Re-

frigerators, North

Kansas City, Mo.

has been appoint-

ed sales manager

of the Koch com-

pany. McShane

came to Koch in



W. R. McShane

1939 after several years with Smith Bros. Construction Corp.

Until he went into the service in 1942, McShane was in charge of distributor sales at Koch. Upon his return to Koch, McShane took the purchasing agent job, his salesmanship abilities standing him in good stead in the task of procuring materials. James C. Owens, an assistant in the purchasing office, is the new Koch purchasing agent.

W. F. Luckenbach, Jr. has been named manager of industrial sales for Virginia Smelting Co., and Dr. Daniel W. Duncan has been appointed head of the company's chemical engineering process improvement section. Luckenbach came to Virginia Smelting from Foote Mineral Co., Inc., where for six years he had served as sales engineer and director of research.

Eddy J. Miller has been appointed sales representative in the north



central states for American Thermal Industries, Inc. to handle the "Ameri-therm" line of packaged air conditioning units. Operating out of Evansville. Ind., Miller will cover Indiana

and Kentucky as well as the southern half of Wisconsin and the northern half of Illinois. Formerly associated

with Servel, Inc., Miller most recently had served as manager of air conditioning and refrigeration compressor sales for Schnacke, Inc.

Dallas L. Calmes of Houston. Tex. has been appointed factory sales representative in Texas, Arkansas, and Louisiana for Wilson Refrigeration, Inc. Calmes has represented leading electrical appliance and equipment manufacturers in the Southwest territory for several years.

Michael A. Gaal has been named refrigeration representative for Mc-Quay, Inc. in Michigan, northern Ohio, northwestern Pennsylvania, and northwestern New York. Gaal has spent 23 years in refrigeration sales, service, and engineering work, mostly with the Delco and Frigidaire divisions of General Motors. For the past three years he has been manager of the commercial and air conditioning sales department of D. K. Baxter Co., Frigidaire distributor at Sioux City, Iowa.

D. W. McLenegan has been appointed assistant to the manager of marketing for General Electric's air conditioning department. He has been succeeded as the department's manager of engineering by S. J. Levine, previously managing engineer of the automatic heating equipment division. In his new post, McLenegan will devote much of his time to the department's long range product planning investigations, and will be available for special assignments.

George Schaefer has been appointed works manager of Henry Valve Co. Schaefer has been with the company for eight years, during which time he has specialized largely in problems of production.

Charles E. Shumate has been appointed district representative of



Weber Showcase & Fixture Co. for the Pacific Northwest area, with offices at 2260 Palou Ave., San Francisco, Shumate, former export sales representative for Weber, will work

with commercial refrigeration, low temperature equipment, and soda fountain dealers in northern California, Oregon, Washington, the northwest tip of Idaho, and the Reno, Nev. trading area. Shumate started his selling career in 1926 with the Scripps-Howard San Francisco News and the San Francisco Examiner.

Kenneth Stigberg has joined Victor Products Corp. as staff assistant to the manufacturing department. Stigberg comes to Victor from the Bullard Co. of Bridgeport, Conn. where he was engaged in engineering work. In his new capacity he will study and develop new assembly line methods for commercial refrigeration production.

L. M. (Bones) Skelton, for many years associated with Kester



Solder Co. as industrial solder engineer, now is representing Kester's technical service department in the field on a specialized basis. In this new capacity his efforts will be de-

voted to aiding industrial solder users in the solution of their technical and production problems.

Walter Smallwood has been appointed vice president and general sales manager of Perrin-Turner Ltd., Toronto, Ont. This firm serves as Canadian distributor for the Servel-Schnacke commercial refrigeration units. For the past 12 years Smallwood has served at the Canadian General Electric Co.'s head office in

Continued on page 73

If you're the kind of a guy who likes to win by a

THIS IS FOR YOU . . . Some fighters get by on shadow boxing and cream-puff punches . . . fancy foot-work but no guts . . . and some refrigeration men seem to get along with the same methods. Personally, we prefer the knockdown, drag-out school of thought.

If you're going to build heat transfer products . . . BUILD'em, we say. You need designers and engineers, so you hire the best . . . but the BEST. You have to hire workmen and buy materials . . . same thing here if you're smart. And you need a staff of experts in the field . . . so you really hire EXPERTS.

Naturally you don't do all this if you're just fooling around . . . if you're an in-and-outer. But when you've been in this business as long as we have you learn how to do these things . . . how to turn out the kind of product that wins without an argument . . . that wins by a Knockout. We've discovered that a lot of other people like to do business this way, too.

Remember to "Buy the Best and the Best is Bush."

BUSH Heat Transfer Products are AVAIL-ABLE NOW through refrigeration and air conditioning wholesalers everywhere. Write DEPT. C2 for the new BUSH Catalog.

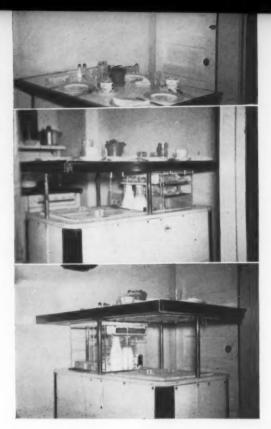
BUSH MANUFACTURING CO. . WEST HARTFORD 10, CONN.



NOW YOU SEE IT,
NOW YOU DON'T—
that's a phrase which aptly
describes the operation of
this true table-top refrigerator. A simplified hydraulic lift, actuated by the
knob shown in the center
photo, raises the entire table-top vertically to provide access to the twotemperature refrigerator
contained in the cabinet
which forms the table's base.

SO YOU WANT A TABLE-TOP UNIT?

Here's one that really fits the name. Developed by a Canadian refrigeration service engineer, it combines the functions of kitchen table, refrigerator, and home freezer



A TABLE-TOP refrigerator that really lives up to its name has been patented by Canadian inventor O. A. McKellar, a Toronto, Ont. refrigeration service engineer.

Designed especially for applications in kitchens where space is at a premium, this unique unit combines the functions of a regular household refrigerator and a home freezer in a single cabinet, all of which is topped by a practical kitchen table suitable for all normal usage.

Access to the cabinet is obtained by merely turning a knob which operates a valve which actuates a simplified form of hydraulic lift which automatically raises the table (or cabinet) top straight up in a horizontal plane, thus leaving undisturbed anything which may have been on the table. The cabinet (or table) top is lowered simply by turning the knob the other way.

Interior of the cabinet is subdivided into a number of vertical sections which are selectively attached to the underside of the table top when it is desired to raise them to the top level of the cabinet for access. Thus it is unnecessary to raise any more than the particular section desired, and so the balance of the store food is not exposed to the higher room temperatures.

This arrangement also simplifies access to any particular item of food, as foods in the bottom of the cabinet are raised to the top level of the cabinet and foods in the back sections can be raised while the front sections are left recessed in the cabinet. This eliminates excess handling or shifting of foods in the cabinet.

All interior sections are readily removable for cleaning or defrosting. The interior walls of the cabinet serve as the heat transfer surface and the unit seldom requires defrosting.

The unit is entirely self-contained and can be placed anywhere in the kitchen, as a simple plug-in electrical connection is all that is required. The condensing unit and all operating equipment is located in the lower portion of one end of the cabinet, with all valves and controls recessed into the cabinet walls.

All equipment is designed to be readily serviced, and the table top can be easily removed from the cabinet base for shipping or passing through narrow doorways. The cabinet itself measures 25x32x40 inches.

The base of the cabinet is recessed several inches, and with the overhang of the table top plus a concealed sliding leaf in each long side of the cabinet, four persons can be comfortably seated at the table for meals, card playing, or any other purpose.

Due to the remarkable accessibility provided by the unusual interior arrangement, the cubic capacity of this cabinet cannot be directly compared with that of conventional style cabinets. However, the original model of this table-top unit has a capacity of about 8 cu.ft. Half of this space is intended for normal temperature food storage, while the other half is for the storage of frozen foods.

An additional 1½ cu.ft. of space for Continued on page 88

CONTRACTORS News • Activities • Plans

While The Refrigeration Industry is not the official publication of the National Association of Refrigeration Contractors, the Editors assign this space each month to the association. The information below is furnished, for the most part, by the offices of the association and its local affiliates.

NARC Directors Advocate Licensing of Contractors

The board of directors of the National Association of Refrigeration Contractors, at its spring meeting in the Hotel Stevens, Chicago, May 16 and 17, went on record as favoring licensing of contractors.

As formally expressed, the board's opinion is:

"Resolved that the board of directors advocate licensing codes in all areas where legally applicable, and to that end shall actively participate in the formation of such licensing codes in direct cooperation with local associations in those areas."

Other matters discussed at the meeting included labor problems, the possible effects of the international situation on refrigeration manpower, the "Freon" situation, guarantees, plans for the NARC's next annual meeting, and a code of ethics.

General tone of the meeting was set by Ed Wright, NARC president, in his opening remarks.

"The entire program of NARC is based on better service, protection, and satisfaction to the user of air conditioning and refrigeration equipment," he said. "Everything we do must be done with that in mind.

"Price is not always an indication of value. It is better to teach contractors how to sell properly than it is to let them attempt to take business away by cutting prices from a contractor who has already properly built the sale.

"Standardized proposals and contracts which embody uniform terminology and set forth standard installation, maintenance, and warranty provisions are essential."

Commenting on codes, the NARC president said:

"NARC believes in the proper type of codes and regulations, but we do not believe they should be restrictive, however. As we have pointed out time and again, unless the manufacturers and wholesalers of the business exercise sound judgment in merchandising refrigeration equipment, abuses are going to invite restrictive legislation.

"We have said before, and wish to repeat again, that licensing and codes are an industry job, not a contractor's job. We invite the rest of the industry to go forward with us in the development of the proper type of such regulations."

On the "Freon" situation, it was indicated at the meeting that up to that time NARC headquarters had been asked for little or no help for individual contractors unable to buy the refrigerant locally. It was suggested, however, that NARC members should get in touch with headquarters at once if they should encounter such difficulty.

Another suggestion was that parts wholesalers in areas where the Continued on page 76

NARC OFFICERS CONFER ON FREON SITUATION

Both raw materials and production capacity are adequate, and will provide sufficient "Freon" for the refrigeration industry this year—if the small cylinders to ship it in can be obtained.

National officers of the National Association of Refrigeration Contractors learned this from R. J. Thompson, national sales manager of Kinetic Chemicals, Inc., producer of the refrigerant, in a conference in Chicago recently at which the "Freon" situation was discussed at some length.

Kinetic Chemicals has more than a quarter of a million 145-lb. cylinders out in the field, and 72,000 new ones on order, Thompson said. In the month of March, he declared, shipments were curtailed for lack of cylinders. During April return of cylinders improved, perhaps due to publicity given this serious bottleneck, and at the present time shipments are going out at an increased rate.

The new "Freon" plant in East Chicago, Ind., will load only 2,000-lb. drums, for the present at least. It was about a year and a half late in coming into production, due to construction delays.

NARC officers who conferred with Thompson were E. S. Wright, president; Warren Farr, past president; and H. C. Wheeler, vice president.

"The production figures cited to us by Mr. Thompson are most reassuring," Wright said after the conference. "It is up to the industry to give publicity to the acute cylinder situation so that 'Freon' will again flow freely to our industry."



Freon, and the problems involved in supplying it to the refrigeration trade, was the sole topic for discussion as R. J. Thompson (left), national sales manager of Kinetic Chemicals, Inc., met in Chicago with these three representatives of the National Association of Refrigeration Contractors. Left to right the NARC officers are: Ed Wright, president; Warren Farr, immediate past president, and Hal Wheeler, vice president.

COMMERCIAL Refrigerator SALES NEWS

While The Refrigeration Industry is not the official publication of the National Commercial Refrigerator Sales Assn., the Editors assign this space each month to the association. The information below is furnished, for the most part, by the offices of the association and its local affiliates.

Sales Compensation Plan Simplifies Calculations

A unique new sales compensation system, developed by Frigidaire, promises to eliminate much of the "midnight oil" for commercial refrigeration and air conditioning dealers when is comes to figuring the intricacies of sales cost-control, sales evaluation, and salesmen's salaries, commissions, and bonuses.

Announced by Ellsworth Gilbert, Frigidaire's sales promotion manager, the new plan has been designed to aid the dealer in attracting and holding better salesmen through fair and equitable compensation, to keep closer tabs on sales costs, and to help afford day-by-day control of selling activities.

This compensation plan, which is based upon a percentage of average gross profits, embraces the many variable phases of commercial selling, including sales potential, the salesman's experience, seasonal selling trends, local business conditions, trade-ins, the cost of accessory equipment, installation and others.

Key to the entire system are two ingenious calculating devices known as the Frigidaire Commercial Sales Compensation Selector and the Sales Evaluator.

The dealer decides what per cent of gross profit the salesman's earnings are to be and a yearly sales quota

Continued on page 75

NCRSA AND CRMA PLAN JOINT ACTION ON PUBLIC RELATIONS

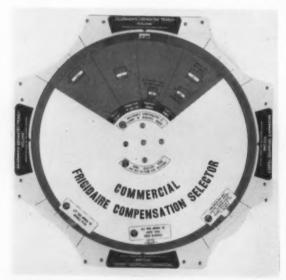
Committees of the National Commercial Refrigerator Sales Association and Commercial Refrigerator Manufacturers Association met at Kansas City, Mo., recently to set up a joint trade and public relations program committee. These groups in turn will name their own public relations staffs and program prior to their next meeting.

Appointed to the CRMA's committee were Paul Sullivan, executive secretary of the association; E. L. Stultz, president of Viking Refrigeration Co., Kansas City; and William J. Stelpflug of the Hussmann Refrigeration Co., St. Louis.

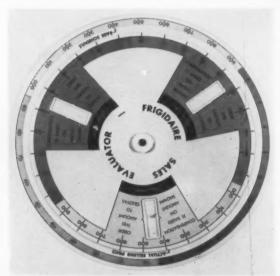
Named to the NCRSA committee were William C. Bader of Tulsa Okla., president of the organization, and Irving Shell of Chicago, vice president.

An attempt was made to work out better relations between manufacturers and distributors with the committees studying fair trade practices and operational precedures. The trade relations committee to be set up at a later date will attempt to coordinate the activities of the two groups.

The first step to bring the two groups together was taken at the annual meeting of the NCRSA held in Cleveland last February which both Stultz and Stelpflug attended.



Three simple adjustments on Frigidaire's new Commercial Compensation Selector show what the commercial refrigeration salesman can expect in the way of weekly salary, commissions on each sale, quarterly bonus, yearly bonus, and total earnings.

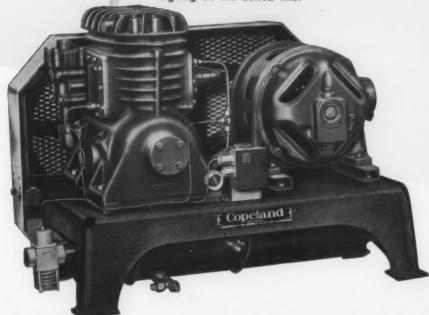


This Frigidaire Sajes Evaluator is designed to establish a credit upon each sale in direct proportion to the gross profit each sale yields to the dealership. The same credit applies to quotas for the salesman when quarterly and yearly bonuses are handed out.

DEPENDABLE Electric REFRIGERATION

Gets the Ring

Say "Copeland" to a refrigeration unit prospect, and it's like mentioning a class automobile to a car owner. Copeland stands for effective, trouble-free performance under all conditions. That's why it's easy for you to get in with your story, out with the order. Your market is already lined up — all around the town. The Copeland line means more signing on the dotted line.



Manufacturers of: Refrigeration Units (open-type and Copelametic), Water Coolers, Refrigerators.

COPELAND REFRIGERATION CORPORATION, SIDNEY, OHIO

JULY, 1948



The swanky exterior of the new Mingledorff store features a fluted marquee and Colonialstyle paned show window. The company paid an architect \$18,000 for this remodeling job.

A WAR BABY GROWS UP

Started as an "off peak" sideline during the war, this Georgia air conditioning contractor's appliance department has developed into a major enterprise of its own

FROM large-scale air conditioning and commercial refrigeration contracting into general electrical appliance merchandising is the unusual transition represented by Mingle-dorff's, Inc., new Augusta, Ga., appliance dealership.

This new Mingledorff operation, now the largest one-store retail appliance outlet in Augusta, is a direct outgrowth of owner W. L. Mingledorff, Jr.'s interest in commercial refrigeration. Actual headquarters of the company are located at Savannah, Ga., where Mingledorff for years has conducted a prominent air conditioning and refrigeration contracting business.

When the war cut short all such engineering work except for government contracts, Mingledorff seized on the opportunity to experiment with an idea he had always carried in the back of his head—consolidation of a commercial air conditioning business with the sale of packaged air conditioning for the home, then the addition of complete home appliance lines. Through incorporating retail

appliance sales and air conditioning engineering into the same organization he felt that it would be possible to "fill in all the valleys" in a highly seasonal business, and—incidentally—to pay off the overhead and show a good profit at the same time.

The new Mingledorff store is a realization of that idea. Plenty of know-how gained from Mingledorff's first appliance store in Augusta, a small unit which was started in the summer of 1945, went into the new building, which boasts such orna-

mental touches as a fluted marquee and Colonial paned front windows. The store's actual selling area is divided into separate departments for maximum utility. To build plenty of eye-appeal into this new store, Mingledorff hired an architect and spent \$18,000 in remodeling.

The new Mingledorff store handles Carrier air conditioning equipment ranging from home room coolers up to 50-ton installations, Coolerator, Gibson and Crosley refrigerators, Easy, Launderall, Apex and Whirlpool

The store's interior is well lighted, attractively arranged, and completely departmentalized. Walls, ceiling, and floor are finished in gray, with woodwork in white. Operating displays on the sales floor include a model kitchen, a model laundry, and packaged air conditioners.



washing machines, and RCA, Stromberg-Carlson, Zenith and Crosley Complete lines of water heaters, home freezers, and other appliances also are carried. The store's record department incorporates a \$10,000 stock of popular records.

While delivery on most major appliances is still "critical" due to the comparative newness of established quotas, Mingledorff's, Inc., has carefully worked out a personnel plan designed to build a loyal, efficient sales staff.

Novel Sales Setup

James Rankin, a graduate air conditioning engineer who was appointed manager of the store, is currently operating with three salesmen, one of whom spends 100% of his time on outside calls. Another man devotes half of his time to this type of selling. Eventually there will be five outside men, sticking strictly to retail major appliances.

Each man is paid "the highest salary in Georgia appliance retailing history," plus commissions ranging from 2% to 5% on all major appliances. "Our theory is to pay top salaries in order to protect our salesmen through this low-delivery period. Then when more appliances become available, these men will be given a chance to build up their incomes with a higher percentage and a lower salary," Rankin reports. "The salesmen themselves selected this plan."

Service Still Rates High

The store is running regular weekly newspaper ads, half a dozen "spot" radio announcements weekly, and is vigorously following up floor leads, telephone calls, and all other sales contacts.

Service, usually a bugaboo with the newly established appliance dealership, is no problem for Mingledorff's. Already equipped to install and service air conditioning systems up to 50 tons, the service crew consists of 9 men, five of whom are expert refrigeration mechanics.

Divisional shops will permit complete rebuilding and refinishing of refrigerators, and all appliance repairs from toasters on up to home freezers. For servicing commercial refrigeration and air conditioning installations, Mingledorff's, Inc., has Continued on page 80

Did you know that ...

... the man who invented the refrigeration process never was able to capitalize on his experiments? Here is the story of a man who paved the way for a multi-million-dollar industry-yet died a pauper.

TODAY the business of refrigera-tion has grown into a hundred-million-dollar industry, yet the man who first invented the process died in 1913 in a little back-stair apartment in Paris without a penny to his name.

Charles Tellier was the name of this little-known Frenchman. His entire life was a struggle. The son of an Amiens miller, he was born in 1828. While still a young man he became interested in science and made a study of motors and compressed air at a time when nobody dreamed they would have a part in the food-saving process.

It was toward the middle of the last century that he began his experiments. He first tried to preserve meat by means of a vacuum—a theory popular with all the scientists of that time. All sorts of wonders were expected from this method, but Tellier soon discovered it did not work out.

Vacuum Theory Abandoned

Dropping the vacuum theory, Tellier turned to a new idea in 1862. It was suggested by Pasteur's early discoveries about microbes. The new theory was that atmospheric germs caused the disintegration of animal tissues, whereas frost would preserve them.

Tellier, therefore, went to work to invent a machine that would produce frost by means of compressed air. It was a slow job finding the right substance, but at last he hit upon ammonia-the same product that is used today in many refrigerating plants.

He made this important discovery in the year 1866. The apparatus he had developed was supposed to be adaptable to salt water. Two Uruguayan capitalists, Francisco Lecoq and Frederico Nina Reyes, became interested, and they agreed to pay the cost of installing the new refrigerating process in an English steamer that made regular trips to South America.

Experimental Voyage Fails

This was done in 1868. The steamer, the "City of Rio de Janeiro", was to bring a cargo of fresh beef from Brazil and the Rio de la Plata. Everything went well for twenty-two days, but then the refrigerating system ceased to function. The meat started to decay, and soon had to be thrown away.

Although the failure of Tellier's invention was a bitter disappointment to his Uruguayan backers, and they promptly lost all interest in the enter-

prise, the inventor suddenly saw the means of making it a complete success. This was by the use of compressed am-

All the clever Frenchman needed now was money for the new machinery. He found another friend in the Comte de Germiny, governor of the Bank of France. Germiny took a keen interest in Tellier's research work and urged him to establish laboratories at Auteuil and at Saint-Ouen.

New System Developed

The workshops were set up, and the Emperor Napoleon III also became financially interested. But, unfortunately, war with Germany soon broke out, and Comte de Germiny was too busy floating loans for the French govern-ment to bother with Tellier. Finally, there came the collapse of Napoleon's whole regime. Forced into exile, the Emperor was no longer able to help. and the inventor was left with the staggering expenses of his new laboratories.

In the meantime, Tellier had developed a more perfect refrigerating process by means of methylic ether. It was several years, however, before he could get the ear of a new financial backer. At last he found a group who would finance him, and in the year 1875 the steamer "Frigorifique" was fitted out with the new refrigeration. The cost of this venture was approximately \$20,000.

Success At Last!

The new refrigeration turned out to be everything that the inventor had anticipated. The "Frigorifique" completed its voyage to Buenos Aires. There a great banquet was given, at which fresh Argentine beef was served alongside the meat that had been shipped three months before from Rouen. So successful was Tellier's invention that the guests could not tell the two apart!

Unlike some inventors, the brilliant Frenchman never became rich from the process that he developed. Tellier saw others reap the reward of his long struggle.

But, with all his setbacks and disappointments, he never lost his sturdy independence. He lived to the advanced age of eighty-five and endured much poverty in his later days. Hearing about his hardships, the International Refrigeration Congress, thinking to make amends, raised a fund of \$20,000 for his benefit. But the dauntless old man turned it down. Tellier insisted he was still able to make his own living!



THE MAN

Lord of all he surveys is Bill Zimmerman as he stands looking over the parts and service department of his own refrigeration contracting business. Can you blame him for that satisfied smile?

THE radio was blaring loudly in the bleak, weatherbeaten old farmhouse which was "home" to Bill Zimmerman, a \$75-a-month poultry buyer at the North American creamery plant in nearby Paynesville, Minn.

But Bill (whose full handle is William G.) wasn't paying much attention to it. He was too busy trying to figure out a way of augmenting his meager income so that he might be able to provide somewhat more of this world's goods for his wife, Julia, and their two small children.

The year was 1935, and the effects of the Depression still weighed heavily upon the Zimmerman household.

Suddenly the canned music from the radio stopped, and the voice of the announcer launched into one of the program's intermittent spot commercials. This one was in behalf of a large Chicago trade school, and as the announcer commenced to paint a glowing picture of the rosy future in store for ambitious young men who were willing to enter the growing field of refrigeration and air conditioning, Mrs. Z began to prick up her ears.

"Bill," she called out to her husband, "you like to tinker with tools, and that kind of work sounds like it might be right down your alley."

Hastily Bill grabbed a pencil and scribbled down the name and address of the trade school. "Maybe you're right, Julia," he agreed. So that night he sat down and wrote a letter to the school, outlining his present situation and requesting more information on

THE REFRIGERATION INDUSTRY'S MAN OF THE MONTH

HE DID I

Bill Zimme refrigeration today is progood hard

the refrigeration course which the school offered.

To make a short story even shorter, the promotional material arrived and after reading it Bill was more sold than ever on the possibilities open to him in the refrigeration field. He scraped together every bit of cash the family could spare and signed up for the course.

At the conclusion of his period of home study he again dug deep into the family's financial sock and managed to come up with enough money to pay his expenses during the sixweek period of actual shop work in the school's Chicago laboratories

HIS BUSINESS (1938)

When Bill started in business for himself just 10 years ago he operated out of this little shed in back of his run-down old farmhouse. But it didn't have a fresh coat of paint, then. Now it serves as a warehouse for overflow stock from the Zimmerman store in town.



THE HARD WAY

started from scratch in the me. The success he enjoys nat ambition, perseverance, and still pay off in blue chips

which concluded the cooling course.

Bill liked refrigeration work from the start, and he applied himself diligently to his studies. At the completion of his shop training he graduated from the course with high honors.

Then came the tough part—trying to find a job in the refrigeration field. He looked all around Chicago, Cleveland, and Mansfield, Ohio, without success. Finally, considerably discouraged, he returned to his little Minnesota farm—and to his old job at the creamery.

Bill wasn't a man to give up easily, though, and he kept up his interest in refrigeration work, spending most of

HIS STAFF

Bill and his staff stand proudly in front of the new building addition which houses the firm's expanded service shop. Standing alongside Bill are his wife, Julia, and daughter, Carol, both of whom actively work in the company.



S BUSINESS (1948)

ay Bill owns this remodeled store building on the town's "main n' where his refrigeration contracting and electrical appliance ness is located. Portions of the building have been air conditioned y Bill himself to provide more comfortable working conditions.



HIS TRUCKS

These are two of the trucks which Bill uses in his business. The van in the background has been completely outfitted as a rolling refrigeration and electrical repair shop. The panel truck is used for emergency calls, as well as for pickup and delivery of parts and equipment.



JULY, 1948



HIS HOME

This attractive, well kept country home was just a barren, weatherbeaten old farmhouse when Bill bought it. It has been the Zimmermans' home since before Bill entered the refrigeration field, and the same hard work which built his business so successfully also is evidenced here.



HIS WIFE

Julia Zimmerman makes dog breeding a profitable business as well as an enjoyable hobby. Here she poses with two of her prizewinning Great Pyrenees dogs which she exhibits under the banner of "Zimmies Kennels".



HIS CHILDREN

As daughter Carol picks out the melody of a popular song on the family piano, her brother, Wesley, joins her in a melodious duet. his spare hours studying every bit of information on which he could lay his hands. Finally, in February of 1938, his first break came. He answered a newspaper ad which had been placed by Conrad Refrigeration Co., a Minneapolis refrigeration contractor, and sold himself so well that he was promptly put to work on that firm's installation staff.

Everything looked rosy for awhile, but the bubble soon burst. Conrad's business fell off and Bill, being one of the last men hired, was one of the first to be laid off.

That was in July, 1938. Bill spent the next few days methodically canvassing all refrigeration firms in the Twin City area, but it seemed that no one was interested.

This second reversal of fortune might have been enough to make some men give up completely and go back to their old line of work. But not Bill Zimmerman. By this time he had had just enough contact with the refrigeration game to thoroughly convince him that here was his life work.

A life work is not much good, though, unless you have a job to go with it. And Bill didn't. So he went back home to the farm to think things over. A few weeks later he reached the decision that was to prove the turning point of his entire career. He decided to go into the refrigeration business on his own.

This was a rather bold step for a man with so little actual experience in refrigeration work, but Bill was confident that he could make a go of it. He had some business cards printed up and proceeded to canvass the nearby towns for customers.

The first job he landed was the construction of a freezer for a mink rancher who needed it for the storage of mink food. This amounted to about an \$800 installation, all of which was very fine except that Bill didn't know where he was going to get all of the necessary equipment or how he was going to pay for it.

Somehow he managed to get hold of an old Percival compressor, and he finally managed to obtain the rest of the quipment from a St. Paul wholesaler of refrigeration supplies. To pay for this equipment he not only had to borrow \$100 in cash but also had to wangle a sizeable credit from the wholesaler, H. W. Small of Thermal Co., Inc. Further financial

Continued on page 56

REFRIGERATION INDUSTRY



SO, CALIF, GROUP REELECTS OFFICERS

Members of the Refrigeration Manufacturers Association of Southern California at their last meeting unanimously reelected for another year the 1948-'49 directors of the associ-

The men who will serve during the 1948-'49 year as directors of this Association are: B. R. Glazer, Super Cold Corp., Los Angeles; C. S. Meyers, Weber Showcase & Fixture Co., Los Angeles: B. H. Bakke, Coldew Corp., South Gate; H. T. Jarvis, Refrigeration Engineering, Inc., Los Angeles; Harry Ward, Ward Refrigerator & Mfg. Co., Los Angeles.

The directors at their first meeting in the new year reelected the previous year's officers, who are: Glazer, president; Meyers, vice president; Bakke, secretary-treasurer.

At the present time the association is engaged in renegotiating a master labor agreement between its members and the Los Angeles Building and Construction Trades Council and various local unions covering production workers in their plants.

REDMOND CO. BUYS HOLTZER-CABOT DIV.

The Holtzer-Cabot Div. of First Industrial Corp. has been purchased by Redmond Co., Inc., one of the largest manufacturers of fractional horsepower mo-

Holtzer-Cabot, located in Boston, is one of the oldest manufacturers of motors. having been in existence almost 75 years, and is well known for its development and manufacture of fractional horsepower motors.

Frank C. Campbell, president of Redmond, will assume direction of both companies, and Holtzer-Cabot will be known as Holtzer-Cabot Div. of Redmond Co.

GEORGE JONES IS NEW ACRMA PRESIDENT

George S. Jones, Jr., vice president in charge of sales of Servel, Inc., was elected president of the Air Conditioning & Refrigerating Machinery Association at the association's annual meeting at Hot Springs, Va recently

The convention named Ross Rathbun, president of the Baker Ice Machine Co., as first vice president; George R. Prout, vice president of the General Electric Co., as second vice president: and P. A. Mc-Kittrick, vice president of the Parks - Cramer Co... treasurer.

New members of the board of directors are: W. H. Aubrey, Frick Co., Inc.; A. Bonneville, Fedders-Quigan Corp.; A. J. Bronold. Sturtevant Div., Westinghouse Electric Corp.: G. A. Heuser, Henry Vogt Machine Co.; George S. Jones, Jr., Servel, Inc.; S. E. Lauer, York Corp.; H. Lehman, Frigidaire Div., General Motors Corp.; P. A. McKittrick, Parks-Cramer Co.; E. T. Murphy, Carrier Corp.; W. C. Newberg, Airtemp Div., Chrysler Corp.; G. R. Prout, General Electric Co.: Ross Rathbun, Baker Ice Machine Co., Inc.; D. Robertson, Universal Cooler Div., International Detrola Corp.; F. C. Schnacke, Schnacke, Inc.; A. O. Vogel, The Vilter Mfg. Co.: G. Wallis, The Creamery Package Mfg. Co.; K. A. Weatherwax, Acme Industries, Inc.; C. E. Wilson, Worthington Pump & Machinery Corp.

A.G.A. ANNOUNCES ANNUAL AWARD FOR AIR CONDITIONING

First annual American Gas Association progress award for gas summer air conditioning has been announced by L. L. Ladewig, chairman of the association's all-year gas air conditioning committee. This first award, which will be presented at the A.G.A. convention at Atlantic City next October, will be based on progress made in gas summer air conditioning during 1947. Donor of awards will be Servel, Inc.

The awards will consist of the A.G.A. Gas Summer Air Conditioning Progress Trophy and \$1,000 in cash to the winning company. Miniatures of the trophy will be presented to the individuals in the company whose efforts made the award possible.

All gas utility companies holding membership in the association will be eligible for entry. Entries for the 1947 award must be in the hands of A.G.A. by August 1 of this year.

RAUCH HEADS REWA REGION NO. 9

Jess E. Rauch, of Rauch Monroe, Oakland, Calif. refrigeration parts wholesaler, has been elected chairman of Region No. 9 of the Refrigeration Equipment Wholesalers Association.

Other new officers of Region 9 are Wm. Wurzbach, Wurzbach Refrigeration Supply, Oakland, secretary; W. C. Miessemer, Arizona Refrigeration Supply, Inc., Phoenix, committeeman; Merle F. Stutzman. Refrigeration Supplies Distributor, Los Angeles, committeeman.

BEVCO FREEZERS GET NEW TRADE NAME

Bevco Co., St. Louis manufacturer of h o m e freezers, has changed the trade name of its home freezer line from Zer-O-Pak to Bevco-Maid in order to avoid interference with the Zer-O-Pak trade name employed by McQuay, Inc.

FREON PRICES UP FOR FIRST TIME

Advances in loading. handling, shipping and warehousing costs over the past thirty months have necessitated increases in prices of "Freon-12" flourine refrigerant when shipped in cylinders up to and including 145-pound capacity, according to Kinetic Chemicals, Inc.

These are the size cylinders on which Kinetic pays outbound freight on filled cylinders and return freight on empty cylinders. The increase in price amounts to approximately 10%. There is no change in price for "Freon-12" in one ton containers which are sold f. o. b. plants at Carney's Point, N. J., and East Chicago, Ind.

This action was delayed as long as possible and the increases were held to the minimum practical amounts

The upward price adjustment, effective June 26, 1948, is the first made by Kinetic Chemicals in the history of "Freon-12."

DU PONT ADVANCES **AMMONIA PRICES**

The Du Pont Co. has announced an increase in the price of anhydrous ammonia.

The company said increases in the cost of raw materials, production, and shipping have made it necessary to increase the price of anhydrous ammonia, in tank-car lots, to \$70 a ton for the commercial grade, and \$72.50 a ton for refrigeration grade. Ammoniacal liquor will be \$76 a ton. This compares with former prices of \$59 a ton for commercial grade, \$61.50 a ton for refrigeration grade, and \$65 a ton for ammoniacal liquor.

It is the first time that Du Pont bulk ammonia prices have been increased

since 1944.

BRINE ANALYSIS IS MADE NATIONWIDE

Extension of its complete laboratory service for the monthly analysis of brine, a system used extensively by West Coast industrial firms employing brine refrigeration systems, so as to cover the entire United States, has been announced by Hill Bros. Chemical Co. of Los Angeles

This service is aimed at preserving the brine in the highest condition of operating efficiency by toning it up, when required, to maintain t h e important qualities of the original strength and formula. The service has been in operation among ice manufacturers, cold storage plants, breweries, food processors. dairies, and other refrigeration users on the West Coast since 1931.

Governair Holds Cooling Session For Theater Men

Governair Corp., Oklahoma City manufacturer of air conditioning equipment, recently staged a 3day sales and training conference for the personnel of National Theater Supply, exclusive distributor of Governair packaged air conditioning units in the theatrical field. More than 30 delegates from four states attended.

Also present at this novel promotional and service meeting were theater owners and their representatives who made the trip to learn more about the maintenance of their air conditioning equipment.

The conference was under the direction of R. L. Bostick, manager of the Memphis and Dallas offices of National Theater Supply, and Ambrose M. Keyser, chief of Governair's engineering department.

BRUNSWICK HALTS OUTPUT OF UNITS

Until "there is improvement in market availability and labor efficiency, Brunswick - Balke - Collender Co., Chicago, has suspended production of its refrigerator line, R. F. Beninger, president, has announced.

KELVINATOR MEN LEARN WATER COOLER LINE SPEED RECORD SET



Five key men of the Nash-Kelvinator Corp. sales organization gathered recently at the Columbus, Ohio plant of Ebco Mfg. Co., where Kelvinator water coolers are manufactured, to attend the second in a series of sales training programs on the Ebco-made, Kelvinatora series of same training programs of the 2-bo-made, Kervindoor-refrigerated water cooler line. The 2-by-day program included in-structions in the construction, selling, and servicing of these units. Examining the Kelvinator condensing unit in the photo above are: Seated—G. T. Etheridge, Kelvinator commercial and parts sales manager; A. R. Benua, Ebco president; H. C. Patterson, Kelvinator commercial sales manager. Standing—I. E. Weber, Kelvinator commercial and parts sales manager, Cincinnati; Douglas C. Salisbury, Kelvinator commercial field salesman, Cleveland; C. G. Fosnaught, Ebco; J. J. Spring, Kelvinator commercial and parts sales manager, Pittsburgh; John Rolfes, Kelvinator sales promotion and advertising manager, Cincinnati zone; W. L. Winchester, Ebco; and Wayne Stafford. Kelvinator commercial and parts sales manager, Cleveland.

NEW STANDARDS SET FOR TUBE MAKERS

A "Simplified Practice Recommendation for Copper and Copper-Alloy Round Seamless Tube" has been approved for promulgation, according to an announcement of the National Bureau of Standards. The recommendation will be identified as R235-48, Copper and Copper-Alloy Round Seamless Tube, and will be effective from June 15. 1948.

The recommendation was proposed by the Copper & Brass Research Association, on behalf of manufacturers of copper tube. Adoption of the preferred sizes listed should enable the tube mills to schedule longer runs with less frequent resetting of tools; and the repetition of orders for similar sizes should in time permit the building of stocks, and thus regularize production and facilitate distribution.

Until printed copies of R235-48 are available, mimeographed copies of the recommendation may be obtained without charge from the Commodity Standards Division, National Bureau of Standards, Washington 25, D. C.

SMITH AND CHIDESTER FORM NEW FIRM

Formation of C & S Equipment Co., Inc., a Los Angeles firm of manufacturers representatives, has been announced by Eugene W. Smith, president, and Charles W. Chidester, vice president.

The new company will cover California, Arizona, and Nevada, and at present is representing in those states the following firms: Remco, Inc., Halstead & Mitchell, and Madison Products Co. The firm will represent Drayer - Hanson in southern California.

Smith has been associated with the refrigeration industry for 15 years. most recently having served as assistant manager and chief engineer of Pacific Refrigeration Co. Chidester has been in the refrigeration business for 14 years, the last 6 of which were spent as manager of the refrigeration and air conditioning division of Pacific Scientific Co.

NEW ACE OUTLET

Warren Mfg. Co., Beaumont, Tex., has been named distributor of Ace Cabinet Corp. products in the South Central area.

IN COOLING JOB

What is believed to be a record for speed in making a large air conditioning installation in an office building was set on May 1, in Dallas, Tex. Seventyseven Chrysler Airtemp 'packaged" air conditioners were installed and put into operation in 30 days in the 18-story Irwin-Keasler Building, without interrupting the normal routine of occupants of the building.

This feat was accomplished through detailed planning of the job by Matthews Engineering Co., Chrysler Airtemp dealer in Dallas, and the complete cooperation of labor, management, and contractors. Chrysler Airtemp "packaged" units were installed in batteries of twelve on every third floor, with four units supplying cool, dehumidified air to one floor. Each unit has a capacity of five tons. Each is separately controlled.

The Matthews firm sold the job last fall. During the winter of 1947-48, plans to the minutest detail were worked out. Conferences between the Airtemp dealer, contractors, and labor union officials were held so that each of the more than 200 persons who worked on the operation knew his task perfectly. On April 1, 1948, the installation was started, and on May 1, just 30 days later, it was turned on and put into operation.

ACME INDUSTRIES NAMES TWO AGENTS

Two new regional representatives have been named by Acme Industries. Inc.

Coward-Eastman Co., 43 South 23rd St., Philadelphia, has been appointed to represent Acme in eastern Pennsylvania, southern New Jersey, and Delaware. The principals are Charles W. Coward and Carl B. Eastman.

Paller Engineering Co., 1037 North Pennsylvania St., Indianapolis, Ind. has been appointed as Acme representative for Central Indiana. Ben Paller heads this organization.

TRAILER FIRM BUYS BROQUINDA CORP.

Trailmobile Co., Cincinnati, Ohio, one of the world's largest builders of commercial trailers, has acquired exclusive world sales and manufacturing rights of Broquinda Corp., makers of transport refrigeration.

Announcement of the acquisition of the St. Petersburg, Fla., concern was made by Wade T. Childress, president of Trailmobile. Childress said the Broquinda refrigeration system which uses dry ice as its primary refrigerant will be marketed under the name Trailmobile - Broquinda Controlled Refrigeration.

Childress also announced the creation of a new division within the Trailmobile organization to handle sales and manufacturing of the newly acquired refrigeration system. He said manufacturing operations will be continued at St. Petersburg, but additional production facilities are to be installed at a later date at Trailmobile's Cincinnati plant.

PAINO DISTRIBUTES SWEDEN FREEZER

Sweden Freezer Mfg. Co. of Seattle, Wash., has announced that Charles Paino, past president of the National Association of Retail Ice Cream Manufacturers, is now New England distributor of the company's line of retail outlet ice cream freezing and dispensing equipment.

Paino, well-known figure in the ice cream industry for the past 20 years, resigned posts as vice president and director of retail stores of the United Farmers Dairy Stores, Inc., New England ice cream producer, to promote sales of Sweden Speed Freezer equipment. He is president and treasurer of the new distributing organization, Sweden Freezer Sales Co., Inc., of New England, with modern showroom and ice cream store at 255 Huntington Avenue, Boston.

BIG DEMAND CITED FOR ROOM COOLERS

An unprecedented demand for room air conditioners for homes and offices is reported by Carrier Corp. More of these units have been shipped in recent months than in any similar period, according to O. W. Bynum, Carrier general sales manager.

WILSON FIELD MEN MEET AT FACTORY

Factory sales representatives of Wilson Refrigeration, Inc. from all sections of the country, inaugurated a family freezer sales campaign recently at an all-day conference held at Wilson's S myrna, Del. headquarters.

The expanded program of advertising and sales promotion to support distributor-dealer merchandising, was announced by A. A. Davis, national sales manager, and Charles R. Mougey, director of advertising and sales promotion.

John E. Wilson, Jr., president of the firm, told the factory representatives that only intensified sales and educational efforts were needed to produce markets unlimited for farm and home freezers.

MANUFACTURERS, WHOLESALERS, CONTRACTORS MINGLE AT WEST COAST SHOW





Educational exhibits were the order of the day at the Western Refrigeration and Air Conditioning Show (no other type of manufacturer's display was allowed), and these exhibits universally drew the attention of the more than 1300 refrigeration engineers, contractors, and wholesalers who at-

tended the Show, as the photos above indicate. In the Mills booth, Gerald S. Robinson (second from left) of California Refrigerator Co., San Francisco wholesaler of refrigeration supplies, examines the piston from a Mills condensing unit. West coast wholesalers, including members of Regions

9 and 11 of the Refrigeration Equipment Wholesalers Association, were extremely active in promoting the Exhibition. Frigidaire's "Viso-Trainer" also drew a good crowd of interested spectators, as can be seen from this photograph of the Frigidaire booth at the Western Show.



Educational sessions at the Western Refrigeration Conference were exceptionally well attended as these photographs indicate. In the picture of the speakers' table, Merle Soden, state educational director of the Refrigeration-Service Engineers Society, stands at the rostrum. Seated, left to right, are: Dan D. Wile, Refrigeration Engineering, Inc.;



W. R. Rinelli, Ansul Chemical Co.; Jim Walker, Westinghouse Electric Corp.; Paul B. Reed, national educational director, RSES; Hi Jarvis, Refrigeration Engineering, Inc.

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Equipped with patented, self-aligning stem disc which does not rotate on seat. Resilient packing. Valves are back seating and can be repacked under pressure. Inverted wing cap operates valve. Unrestricted flow. Bronze alloy bodies, % to 4% 0.D.S. Semi-steel bodies with adapters for soldering or brazing to copper pipe - 1%" to 51/6" O.D.S.



Sold by leading wholesalers

HENRY VALVE COMPANY



Control Devices, Valves, Driers, Strainers and Accessories for Refrigeration and Air Conditioning and Industrial Applications.

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COMPLETE LINE OF COMMERCIAL REFRIGERATORS

There's a vast dependable, profitable market for Tyler equipment



Meat Display Case

in groceries — markets — delicatessen stores — bakeries — hotelsrestaurants—sandwich shops—diners—convents—schools—academies — colleges — hospitals — institutions — florist shops — clubs taverns—yacht clubs—drug stores—laboratories—fraternities.



Wall Dairy Box











Refrigerated Vegetable Case

Dairy and **Delicatessen Case** Frozen Foods Display Case

HARDER THE ECONOMICAL HOME FREEZER Twelve, 18 and 24 cu. ft. Chest Models -9 and 18 cu. ft. HARDER-Freez Display Cases. Wall, Center Aisle and Chest types. For frozen foods. ice cream. Upright Models.

REFRIGERATION FOR FOOD

FOR ADDITIONAL INFORMATION, WRITE TYLER FIXTURE CORPORATION, NILES, MICHIGAN

COLLEGE COOLING . . .

Continued from page 35

surely diners are provided in the open area in front of the service counter. Also in this area is a ½-hp Filtrine water cooler which was deliberately located remotely from the service bar in order to relieve congestion during rush periods.

As the snack bar itself provides room for only short-order cooking and service, all preliminary work is handled in an adjacent kitchen.

Chief refrigerated fixture in this kitchen is a Tyler P-43 reach-in box for the storage of perishable foods. Compressor for the Tyler unit was located in a closet opening off the kitchen, and adequate air circulation was

ACME REFRIGERATION

ALL MANUS HOUSES

SERVICE DEPT

"I see Jones has been out on another butcher shop job."

provided by removing the top and bottom panels of the closet door.

Other equipment in the snack bar kitchen includes an electric range and fryer, chef's table, stainless steel scullery sink, and a sandwich table.

Installation of all this equipment posed considerable of a problem. In the first place it was necessary to pack a considerable amount of equipment into a relatively small space. This was accomplished by means of the compact design worked out by J. H. Blakeslee, head of the engineering and planning department of the Schultz organization.

There were physical obstacles to the installation, too, in the form of the 3-foot-thick foundation walls and heavy floors of this building which had once been one of Erie's most palatial residences before being taken over by the college.

Fortunately, however, the old floor had to be torn up anyway, and plumb-

ers and electricians proved most cooperative in adjusting their work to the plans of the Schultz company's installation crew.

Once the floor was torn up, the Schultz installation men ran 4-inch tiles from the various refrigeration units to their respective compressors, and then ran all refrigerant lines through these "tunnels." This was done with a view toward facilitating any service of this equipment which might be required in the future.

Condensation drains were provided

and so arranged that they ran right into a spill located underneath the floor. All safety switches for the compressors were mounted on the wall back of each unit at a uniform height of 4 feet from the floor.

DEEPFREEZE L. A. MGR.

John G. Watts has been appointed district sales manager of the Los Angeles district for Deepfreeze division, Motor Products Corp. Prior to joining Deepfreeze he was associated with a distributor in San Francisco.



MAN OF THE MONTH . .

Continued from page 50

assistance was obtained from the local banker in New London, Minn.

The job was sold on a timepayment basis, and as it turned out Bill ended up by accepting three of the customer's mink as partial payment. At this stage of his career Bill could have made lots better use of the cash than of the mink, but deciding that this sort of settlement was better than nothing he made the most of the situation. Bill's wife started raising mink.

As luck would have it, the second job which Bill sold was a similar type of installation for another mink rancher. And here too he encountered collection problems. But at least he added two more mink to his growing herd!

With this start, Bill tried to break into the locker plant installation business, but he found this a pretty tough nut to crack. Finally, however, he did succeed in selling his first locker job. Ironically enough, he sold this job in competition with Conrad Refrigeration Co., the firm which had given him his first job in the refrigeration business.

The angle that Bill stressed in making the sale was that he, being located in the immediate vicinity of the installation, would be in a position to offer much more effective service on the job than would a contractor from the Twin Cities.

Creamery Cooling Next

Next stop up the line, as far as installations are concerned, was the creamery cooling field, and Bill soon began to concentrate on that. The first creamery job he sold was to the Greenwald Creamery, where he sold a brine job to replace an old ammonia system. The competition on this job was advocating a sweet water installation, and as a result the customer was undecided as to what to do.

Bill finally got the job, but he was forced to yield to the creamery's desires by changing over to a sweet water system using plate coils and a Freon compressor. He did use the brine tank, however, for building up an ice bank.

Bill himself was not at all convinced of the effectiveness of this type of installation, so he installed it only with the definite understanding by the customer that "if it doesn't work it's your idea,"

In spite of being fairly new at the game, Bill used his own formula for figuring this creamery job. When completed, the job worked fine, and since then most of Bill's other creamery installations have been of the sweet water type.

Service Reputation Grows

All this time Bill was steadily building up a reputation for prompt and reliable service work, which he early realized as one of the soundest assets any refrigeration contractor could have.

He'll never forget his first service job. He had been out canvassing restaurant and market owners in nearby communities, just looking for service opportunities, when he stopped at a small cafe in New London. One of the cafe owner's three refrigerating machines was down. Disgusted with the money which this defective unit had cost him and with the unsatisfactory service which he had received from



BS&B SAFETY HEADS

Protect receivers and copper tubing from rupture. Save compressors from destructive over-pressure. SAFETY HEADS offer that positive margin of safety that prevents such accidents. Eliminate costly equipment losses . . . save on costly shut-downs. The simple rupture disc of the SAFETY HEAD absorbs the shock of over-pressure . . . bursts in tension at pre-set pressure.

SAFETY HEADS provide a full-throated, pipe-sized escape point. Fractured discs are easily, quickly replaced. Tamper-proof, fool proof SAFETY HEADS offer you guaranteed performance. A wide selection of types assures you of tailor-made protection. Write today for complete details. Address Special Products Division, Black, Sivalls & Bryson, Inc., Power and Light Building, Kansas City 6, Mo.

BLACK, SIVALLS & BRYSON, INC.

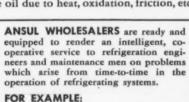
The Ansul Research Staff REPORTS ON:

SLUDGES

Approximately 90% of the sludges produced in refrigerating systems are due to moisture. The exact cause can always be determined by analysis, but the appearance of the sludge (see photos) is usually indicative of the cause.

SLUDGE DERIVED FROM MOISTURE—If water is present in a machine, the nature of the sludge depends upon the type of refrigerant and length of time the water is present. All refrigerants... sulfur dioxide, methyl chloride, Carrene and "Freon-12"... react with water to produce corrosion products characteristic of each. To prevent sludge, the amount of water present in a refrigerating system must be small enough to avoid ice separation and corrosion. For "Freon-12" and methyl chloride, a quantity of water approximately .05% by weight will cause corrosion; the limit is somewhat higher for sulfur dioxide.

SLUDGE DERIVED FROM OILS—Oil sludges are characterized by total or partial solubility in carbon tetrachloride, gasoline and similar solvents. It is generally presumed that oil sludges are due to two causes: (1) an interaction between the unsaturated constituents of the oil and the refrigerant; (2) a breakdown of the oil due to heat, oxidation, friction, etc.



The Ansul Research staff has developed a method for analysis of sludges. This analysis usually gives the answer as to the origin of the sludge. If you have a sludge problem, send a sample of the sludge with pertinent information to the Ansul Research Laboratory through your Ansul wholesaler.

An analysis report will be made for you without charge.

*REG. U. S. PAT. OFF.



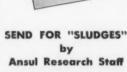
GRANULAR SLUDGE...due to moisture



FLUID SLUDGE...due to oil



HARD SLUDGE... due to moisture and oil



A detailed analysis of the refrigeration sludge problem-

ANSUL REFRIGERANTS ARE AVAILABLE AT LEADING WHOLESALERS EVERYWHERE

ANSUL CHEMICAL COMPANY

DISTRIBUTORS FOR KINETIC'S "FREON-11," "FREON-12," "FREON-21," "FREON-22," "FREON-113" AND "FREON-114"

the firm which sold it to him, the owner was determined to pitch this old unit out and buy a new one.

Bill took a look at the machine and was convinced that he could repair it readily. He offered to do so for \$15. The cafe owner was adamant, however. He angrily declared that he wasn't going to spend another cent on that machine. Finally Bill made this suggestion: "Let me fix it now, without charge, and if it is still in operation 30 days from now then send me the \$15." The man agreed, Bill made the necessary repairs, and promptly

at the end of the 30 days he received his check for the service work. And since that time this same cafe owner has been one of Bill's best boosters.

Cold canvassing of this type was largely responsible for the steady growth of Bill's service business. He recalls with no little satisfaction how he was almost literally thrown out of some business establishments, only to have the owners of these establishments come crawling to him begging for service during the war years when service was hard to get. Not one to "cut off his own nose to spite his own

face," Bill finally took on most of these firms, but only after the requirements of his regular customers had been satisfied.

During those early days when Bill was building his business he hated to turn down any service calls, and so consequently he made himself available to his customers at all times. He felt that he was learning something from each service call he handled, and he insisted on giving each call the full measure of attention it required.

Often he spent nearly an entire day on a call which, had he been more experienced, he could have completed in a few hours. In such cases he would bill the customer for only the length of time which he felt a more experienced man would have spent on the job.

"I didn't believe in charging the customers for my education," Bill points out. These policies were a little tough on Bill's constitution (16-hour days were the rule rather than the exception with him in those days), and



Bill Zimmerman settles down in his favorite easy chair to peruse his favorite magazine.

they didn't help much in keeping the family's larder filled, but in the long pull they proved a determining factor in building the substantial reputation which is largely responsible for his present success.

Bill's dilapidated old sedan, which doubled as service truck and family car, did yeoman duty, but it was virtually falling apart by the time he bought his first truck (a ¾-ton panel job) in 1942. On the side of this new acquisition he proudly lettered the words "Emergency Refrigeration." This slogan, he found, had a two-fold

INSTALLING THE DRIER IN THE COOL SUCTION LINE....

eliminates 90% of our service costs ... so says Mr. Bill Fletcher, chief engineer of Kansas City's Milgram Food Stores as he installs a "Cross-Flo" Drier-Filter (purchased from his wholesaler, Refrigeration Equipment Co.) in one of his installations employing Hussmann Refrigerators and Universal Condensing Units. Solve your moisture problems too-In the exclusive new Cross-Flo design, clogging and pressure drop are entirely eliminated; therefore, Cross-Flo Drier-Filters may be permanently installed in the cool suction line or cold lowside (at evaporator inlet or outlet). In these lower temperature locations, the drying efficiency of silica gel is so greatly increased that service costs due to moisture problems are almost entirely done away with. on below shows Cross-Flo's principle of flowing the refrigerant uniformly through the course-filter than slowly across the large cylindrical bad of drying agent, finally flowing slowly through the extra-large highly-efficient filter. Carried in stock by leading wholesalers everywhere for Circular 711-A for 'all facts' about temperature ct on drier performance. REMCO HEAVY-DUTY Cross-Flo" DRIER-FILTERS LIQUID LINE: 1/4 to 71/2 HP 1/4 to 15 tons Freon-19 SUCTION LINE: 1/4" to 1/4" O. D. ZELIENOPLE, PENNSYLVANIA

effect—it accurately characterized his business activities, and it was influential in convincing many of the local gendarmes of the necessity for occasional minor traffic violations.

The company's latest acquisition in the vehicle line is an International van which is fully fitted out as a rolling service shop.

During his second year in business for himself, Bill undertook the sale of



Carol Zimmerman smilingly helps out her dad with the "paper work" during her spare time.

a line of major appliances in addition to his other activities. Each new endeavor such as this added just a bit more to the family's financial security, so when during the war Bill was offered \$800 a month to work on the Alcan highway he was able to refuse the lure of this attractive salary and gamble on the future of his own business efforts.

Because of the shortage of refrigeration service men during the war, Bill stepped up his already intensive work schedule in order to cover a 150-mile radius from his home. Of course conditions made new equipment sales extremely difficult, and he encountered the usual difficulties with priorities, but his solid service background enabled him to emerge from this troubled period with a better business than ever.

All this time Bill had been working out of his farm home, but finally in 1943 he rented half of a business building in the town of Paynesville. He had just become nicely settled in these new quarters when the owner of the building decided to sell, so Bill had to buy the whole building in order to keep Zimmerman Electric located on the town's "main stem."

As Bill's refrigeration installation and service work had progressed he had discovered that some jobs required a surprising amount of electrical work, so he began to learn as much as he could about this kind of work on his own initiative. He succeeded so well that he himself is now a licensed master electrician. Even before he moved into town he had begun to add electrical contracting work to his growing refrigeration business.

Once established in his new business location, Bill realized that he was going to need help. He soon hired a qualified electrician to handle the electrical contracting work. He hired a helper for the refrigeration service end of the business too, but he still handles virtually all of the sales work himself.

The building and selling of home freezers forms another interesting facet of Bill Zimmerman's operations. He built his first home freezer in 1940, and he is pretty proud of the fact that this unit is still operating. In his freezer construction activities the word "home" really was misleading.



Announcing the

LOCKERATOR

Ice Cube Maker-

at a price that sells—available for immediate delivery—Only 35" high—will go under a built-in table top. Self contained unit requires no rear ventilation. This is the low-priced ice cube maker you have been waiting for! Freezing up to 21 trays or 42 lbs. per 24 hours with extra room above for extra ice cube storage or for 50 lbs. of frozen foods. For use wherever a small capacity cube maker is needed.

Ideal for restaurants, bars, hotels, hospitals, roadside stands, clubs, etc. The LOCKERATOR Ice Cube Maker is entirely self-contained with a nationally accepted, fan-cooled hermetically sealed 1/6 h.p. guaranteed unit. Complete with 21 lever-type quick-release shucker trays of large-sized cubes. List price only \$319 FOB Mason City, Iowa with full discounts.

Write Today to



MANUFACTURING COMPANY, INC.

617 - 4th St. S.W.

Mason City, Iowa

for he catered principally to small commercial establishments which had need of such equipment.

He sold quite a few such units until the pinch of rationing finally all but shut off his flow of materials during the war. In 1945 this phase of his business picked up again, and 1946 turned out to be his biggest freezer year.

Zimmerman Electric, as it now stands, is a surprisingly versatile organization, for it is ready, willing, and able to install anything in the refrigeration and electrical line from a \$60,000 locker plant to a doorbell for your home. Capitalizing on such versatility, Bill points out, is the only way for a business to grow in a town as small as Paynesville (the last census showed a population of 1317), where there is not enough business in any one line to make it overly profitable.

As a result of this policy the firm now sells both Norge and Westinghouse appliances as well as handling its refrigeration and electrical contracting. A wide variety of smaller appliances and electrical supplies also

WRITE FOR

FREE GUIDE

is carried.

About 90% of the firm's refrigeration service work is commercial. Bill considers household servicing nothing more than a headache, and handles it only when he is called upon to do so. "You can service a commercial unit in the same time that you can service a household job," he sagely points out, "and make more money doing it."

Service Not Enough

Like a good many contractors, however, Bill is firmly convinced that service alone won't make you rich. The bigger profit margin which exists in equipment sales, he has found, really helps to widen the spread between gross income and operating expense.

"But to be successful in sales work," Bill warns, "you really have to know your merchandise and be able to use positive sales arguments. You are only kicking the props out from under your own business if you attempt to boost sales by cutting prices or knocking your competitor."

As you might expect, Bill does most of his actual selling while dressed in his working clothes. He has found that in a community such as Paynesville, at least, most people like to deal with a merchant who looks like he knows what he's talking about.

Business Volume Grows

Best indication of the effectiveness of Bill's business policies is the yearto-year growth of Zimmerman Electric's dollar volume. The first few years were "pretty slim pickings," and Bill was lucky to gross \$7000 to \$8000. But in 1941 he really began to catch on, and his little firm grossed approximately \$20,000. The following year this figure nearly doubled to reach \$35,000, with 1943 and 1944 holding even at \$55,000. Dollar volume stepped up again in 1945 to \$60,000, while the 1946 figure rose even further to hit \$75,000. As the business stands now it boasts assets of more than \$60,000 and liabilities of less than \$5000.

Further testimony to the progress of Zimmerman Electric is the fact that only last year the company built an addition on to the rear of its building to house its service and repair department, and this year the firm completely remodeled its quarters. Bill is



capacitor replacements! Use Sprague UNI-

VERSAL types on every job! A stock of less

than a dozen units is all you need. They

always fit-the terminals are right for easy

installation-and the Sprague Bulletin illus-

trated at right tells how to select the exact

needed unit for any standard motor. Send

Sprague Products Co., North Adams, Mass.

Distributing organization for products of Sprague Electric Co.

for your copy today.

SPRAGUE Universal



N OF PROFITS

It's a sign of progress and a sign of profits—when you are identified with the sale of Lipman Automatic Refrigeration and GR Air Conditioning! Consider what these two well-known lines - and the company behind them - now offer you:

TWO COMPLETE LINES that put you in an excellent competitive position. Lipman machines are available in 1/4 thru 40-hp. capacities - air and water cooled - ammonia, freon-12 and methyl chloride refrigerants. The GR line includes range of self-contained and remote air conditioning units for commercial requirements.

ESTABLISHED ACCEPTANCE and reputation for dependability that help make sales easier. Lipman Commercial Refrigeration has been well known for 30 years, GR Air Conditioning for 25.

WELL ENGINEERED units that are slow speed, heavy duty, rugged perform well, stand up in service. All the "bugs" are out!

PROMPT DELIVERY now possible on most units.

SALES HELPS consist of stepped-up national advertising to consumer markets . . . useful sales literature . . . direct mail pieces . . . local newspaper and radio campaigns you can tailor to fit your needs . . . engineering service to help you . . . real cooperation right down the line!

For complete information on the Lipman and GR lines, the advantages in handling them, the market potentialities - call, wire or write immediately. Coupon below for your convenience.

GENERAL REFRIGERATION

Division, YATES-AMERICAN MACHINE CO. Dept. RI7, Beloit, Wisconsin

Please rush me more information on the Lipman and GR lines, as outlined above.

EFRIGERATION

YATES-AMERICAN MACHINE CO. **Lipmun** Beloit, Wisconsin



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Company

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City and State

PREMIER KIT

RECONDITIONS . . Recessed or Flush Valve Ports in MINUTES!

Flush Valve Ports in MINUTYes, this amazingly lowpriced kit makes it easy for any experienced refrigeration service man to grind, finish and test recessed or flush valve seats (either piston or flapper jobs).

IN USE BY

Speeds up work, saves buy-

ing new parts. No more

tiresome hand-lapping.

The Army and Navy, Refrigeration Trade Schools and Service Organizations in United States, Canada, England, South Africa, Cuba & Hawaii and many other countries.

ANOTHER PREMIER PRODUCT

The Premier Lapping Blocks. Two 6" Lapping blocks in hinged felt lined wood box for safe keeping.

A MUST FOR EVERY FIRST CLASS SHOP

SELF ALIGNING VALVE GRINDI



See this time and money saving tool at your Jobbers

THE PREMIER COMPANY

The

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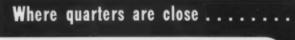
even considering the idea of building a heat pump to air condition his establishment.

If you need still more convincing, consider this fact. Just after the war there were 12 major appliance dealers operating in Paynesville—nearly one dealer for each 100 persons of the town's population. Today, Zimmerman Electric is one of the three dealers still in business.

And what of Bill's family while all this was going on? They're important, too, for they have grown and prospered right along with the business.

The Zimmermans still live in that same farm home in which they were dwelling when Bill first developed his interest in refrigeration, but you'd never recognize that home now. During the years, as their time and their finances permitted, they have rebuilt, remodeled, and added to this home until now it is a true beauty spot, both inside and out.

The 12 acres which comprise their "estate" have been softened by the addition of some 2000 trees—Norway poplars, Chinese and American elms, weeping willows, and many others—all planted by the Zimmermans



BINKS Horizontal Induced Draft Cooling Towers

create their own air movement!

Binks Type 2-D Horizontal Induced Draft Cooling Towers are standard where natural air movement is restricted. They create their own draft for efficient operation . . . can be operated indoors or outdoors. Engineered to give many years of trouble-free service, these modern, compact units are available in a wide variety of standard sizes and capacities. Provide maximum cooling at lowest possible cost . . . you can use the same cooling water over and over. Highly efficient for cooling circulating water for refrigeration and air conditioning condensers. Also suited to a wide variety of industrial processes where heat is liberated to circulating water.

THERE'S A BINKS TOWER FOR EVERY COOLING JOB



MANUFACTURING COMPANY

REPRESENTATIVES IN ALL PRINCIPAL CITIES # 3124-38 CARROLL AVENUE, CHICAGO, ILL.



Bulletin No. 33 (describing single fan) or Bulletin No. 34 (describing twin fan) Horizontal Induced Draft Cooling Towers. Contain charts, dimensions and other data to help you choose the right Binks Type 2-D Units. State tower capacity required.



themselves. The grounds around the house have been further landscaped by the addition of shrubs, white picket fences, and attractive flower beds.

The house itself is tastefully—and comfortably—furnished. It looks and feels like a house to be lived in, which is exactly the way the Zimmermans want it to be. You can't step inside the door without feeling immediately at home.

Julia Zimmerman, who throughout all these years had successfully combined the jobs of business woman and homemaker, has seen to it that her housework has been made as easy as possible through the addition of every possible electrical convenience. Her kitchen seems almost constantly



to be undergoing some minor revision to make it a more efficient work area, while her recently added laundry room is a model of modern conveniences.

u service call like this — in a straight line, or up and down?"

When not helping Bill with bookkeeping, office routine, or sales work in the store, Julia devotes a good deal of her time to her own special hobby, from which she manages to derive somewhat more than a tidy profit as well as extreme personal pleasure. Under the name of "Zimmies Kennels," Julia breeds dogs-Great Pyrenees and Norwegian Elkhounds-for exhibition and for sale. She usually has from 20 to 40 dogs on hand at all times. As a result of this hobby she maintains a constant correspondence with other dog breeders and dog lovers all over the coun-

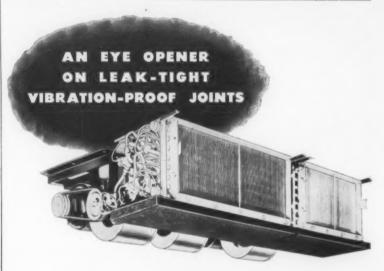
Bill, as you might imagine from the busy work schedule which he maintains to this day, doesn't have

time for much in the way of outside activities, but he has managed to actively serve on several committees of the Paynesville Civic and Commercial Association.

One hobby which Bill and Julia both share, and which the success of their business now has made possible, is travel, and this they indulge in at every opportunity. For instance, when they attended the last two All-Industry Shows held in Cleveland they made it a point to drive, and to use this trip merely as the spring-board for a 6-week junket through

other parts of the country. But there is still much of America which they have not seen, and their only concern is finding time in which to do justice to it all.

Kindly folks by nature, the Zimmermans during the war "adopted" a Norwegian family with nine children. Before the war's end they had sent this family some 40 boxes of outright gifts, including more than \$400 worth of new clothes. This activity ceased only after Mrs. Zimmerman was able to locate some of her own relatives who were residing in the American



Low-temperature EASY-FLO and SIL-FOS brazing

is a standard method of fabrication in the production and installation of refrigerating and air conditioning equipment. It is ideal for this work because both EASY-FLO and SIL-FOS consistently make joints that are not only 100% leak-tight, but also so strong and ductile they will take any punishment the parent metals themselves can withstand. In the above air conditioning unit—similar to those used on the "Train of Tomorrow"—there are well over 100 EASY-FLO and SIL-FOS brazed joints. 8 to 10 years experience has proved that EASY-FLO and SIL-FOS joints are unaffected by the wear and tear of railway travel. You'll find the reasons why in BULLETINS 12-A and 15. Write for copies today.



zone of Germany and started sending relief packages to them.

The Zimmerman children—Wesley, 21, and Carol, 17—have grown up into as fine a pair of kids as any parents could ever wish for. Wesley, dark in complexion and serious in nature, served in the Army Air Forces during the war and now is a junior at North Central College, Naperville, Ill. At the completion of his college course he then plans on spending three more years in a seminary in preparation for entering the Evangelical United Brethren ministry. Carol,

a plump and pleasant little blonde, is just winding up her senior year in high school, after which she plans to take a business course in college. She also is taking voice lessons in nearby St. Cloud, further cultivating what already is a surprisingly strong and clear soprano.

It all sounds pretty swell, doesn't it, this story of business and personal success? And it is, too. It's just one more proof, if you need it, of what can and does happen here in America, if nowhere else on earth. Without getting into any flag waving or rabble rousing, it's still a pretty potent argument for our brand of living.

Bill Zimmerman's success, if ever one was, is built upon sound and solid fundamentals. The advice which he offers in his soft and quiet voice makes him sound like a throwback to the "virtue will triumph" philosophy of the Horatio Alger days. But it makes good sense. Just listen to a few of these words of wisdom:

Formula for Success

"It's best to start at the bottom in any business, and work under someone with plenty of experience until you learn your way around.

"Guarantee your work 100%, and never go back on a promise.

"Always give the customer as much as he has a right to expect, or maybe even a little bit more.

"Charge your customers a reasonable rate for your products or your services. Don't attempt to exact an unreasonable profit, but by the same token don't cut your margin too low.

"Always remember that the customer is right—95% of the time. Insist on doing a job right if you do it at all, and if you are certain in your own mind that what the customer wants is wrong then have the courage to tell him so."

Sounds mighty simple, doesn't it? But before you rush right out to follow Bill's example, just remember that there's one more indispensable ingredient in his formula for success—many, many hours of good hard work. And unless you're willing to throw in a full measure of this final ingredient, you might as well not even start.

THE practical aspects of freezing eggs for storage are discussed by the well known authority, Dr. M. E. Pennington, in the latest Application Data Section (AD 29-R) to be published by The American Society of Refrigerating Engineers.

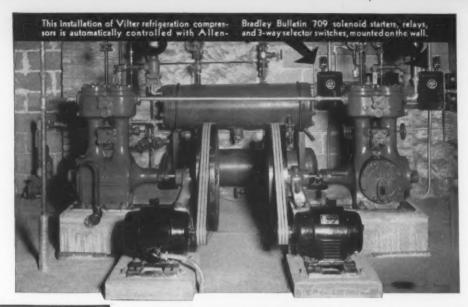
The eight-page brochure contains information on raw material standards, sanitary control, control of composition, general manufacturing conditions, freezing of liquid eggs, holding freezer, and transportation.

The author was a pioneer in the handling of perishable products under refrigeration and is now a consultant on food problems.

Copies may be obtained from

Copies may be obtained from ASRE headquarters, 40 West 40th Street, New York 18, N. Y., for 35c each.





VILTER

REFRIGERATION UNITS

equipped with

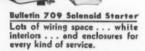
Trouble-Free Motor Controls

ALLEN-BRADLEY STARTERS ARE TROUBLE FREE. Only one moving part. No pivots, pins, or bearings to corrode or stick...no jumpers to break. You install them... and forget them!

NO CONTACT MAINTENANCE. Allen-Bradley patented silver alloy contacts never need cleaning, filing, or dressing.

DEPENDABLE OVERLOAD RELAYS. Allen-Bradley thermal relays are accurate and dependable even after long service.

The A-B trademark stands for millions of trouble-free operations. Allen-Bradley Co., 1340 So. Second St., Milwaukee 4, Wis.



ALLEN-BRADLEY AIR-CONDITIONING AND REFRIGERATION CONTROLS

PRESSURE AND TEMPERATURE







High-pressure cutout and motor starter in same enclosure. Temperature controls can be mounted with motor starter in same way.





COMBINATION



ALLEN-BRADLEY
SOLENOID MOTOR CONTROL

AMINCO OIL SEPARATORS



Aminco Oil Separators protect compressors by maintaining correct oil level in crankcase and by excluding oil from refrigerant stream they enable coils, condensers, valves and dehydrators to function most efficiently.

These oil separators are made for jobs from 36 H.P. to 120 tons and are used everywhere, ashore or afloat, where efficient refrigeration is desired.

Full descriptive bulletins on request.

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W. H. Cedy, Santa Fe Bidg., Dallas Expert Berg-Warner, 310 Se. Mich., Chicago



The publications listed below are available to readers without charge. Simply list on a postcard or on your letterhead the numbers of the items you wish to receive, and send it to THE REFRIGERATION INDUSTRY, 1240 Ontario Street, Cleveland 13, Ohio. Your requests will then be forwarded directly to the companies concerned.

296—Unit Coolers . . . A 16-page catalog (No. 932) which describes, illustrates, and lists specifications of the line of "Blo-Cold" industrial unit coolers manufactured by Acme Industries, Inc. Tables of capacity ratings for each type of unit are included, and specific examples are cited to show the method of selecting the proper unit for each application.

297—Flow Indicators . . . A catalog covering the full line of "Rotameters" for flow-rate measurement and control. Capacity chart, data sheet, and dimension prints of each type of meter are included. Available from Brooks Rotameter Co.

298—Soldering Iron . . . A specifications sheet describing the "Quik-Shot" soldering iron which is heated by means of a special heat cartridge and needs no

electricity, flame, or external heat of any kind. The iron is illustrated and its operation described. Available from Kemode Mfg. Co.

299—Cooling Towers . . . A file of loose-leaf catalog sections describing the line of cooling towers and industrial spray nozzles manufactured by the cooling equipment division of Binks Mfg. Co. Each section offers detailed specifications of the model it covers.

300—Insulation . . . Relative insulative values of different materials under different circumstances is presented in this 16-page manual entitled "The Simplified Physics of Thermal Insulation". A handy reference guide on heat transfer, condensation, vapor, mold, etc. Available from Infra Insulation, Inc.

301—Tube Bending . . . All latest data on tube and pipe bending has been incorporated in the third edition of the "Pipe and Tube Bending Handbook" prepared by the Copper & Brass Research Association. One section deals entirely with a detailed analysis of the different basic bending methods and the principles involved in each.

302—Motors... The new line of Torq fractional horsepower motors is illustrated and described in this 4-page bulletin, Complete specifications and dimensional diagrams are included, Available from Torq Electric Corp.

303—Cooling Towers . . . Two new technical bulletins (Nos. 36 and 37) giving complete, up-to-date information on Type 2K-S (spray filled) and Type 2K-W (wood filled) mechanical draft cooling towers. Available from Binks Mfg. Co.

304—Safety Valves . . . A 6-page illustrated specifications bulletin (No. 50) facilitating the prompt selection of relief or safety valves by means of a detailed index and comparison chart Sectional drawings of various types of valves also are included. Available from Farris Engineering Corp.

305—Tool Grinding... Features and applications of a small tool grinder are illustrated and described in this 4-page folder available from Corlett-Turner Co. Complete product specifications are listed.

306—Welding Accessories . . . A 12page catalog providing product description, parts information, and prices on the complete line of "Tweco" welding accessories. Available from Tweco Products Co.

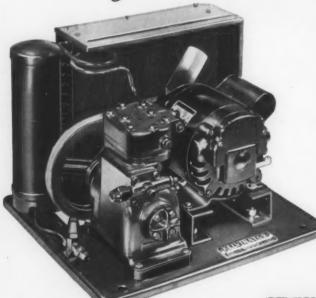


FARM and HOME FREEZERS

For the Big

TROUBLE-FREE
PERFORMANCE
USER ACCEPTANCE
COMPETITIVE PRICE

Buy Kelvinator



Yes, you get all three of these basic sales advantages when you buy Kelvinator condensing units. For they're priced competitively... they perform dependably... and they bear a name that customers know means quality!

Throughout their production, Kelvinator condensing units are precision-tested to insure top-notch performance under all conditions. Their complete dependability makes Kelvinator the name that always sells, always satisfies.

Just drop in at one of Kelvinator's 50 convenient supply depots. Each carries a complete stock of Kelvinator-made parts and supplies, competitively priced. You'll like Kelvinator's fast, friendly service... Kelvinator, Division of Nash-Kelvinator Corporation, Detroit, Michigan.

GET YOUR COPY!

Kelvinator's "Trouble-Shooter's Guide" for Refrigeration Service Men . . . a handy, pocket-sized booklet for training additional personnel. Ask your local Kelvinator Distributor or Zone Office about it.



Kelvinator



CONDENSING UNITS OPEN AND SEALED

New PRODUCTS

For further information on any of these products, simply list the key number at the head of each item on a post card or on your letterhead and send it to THE REFRIGERATION INDUSTRY, 1240 Ontario Street, Cleveland 13, Ohio.

Your requests will then be forwarded directly to the companies concerned.

Display Case P-242

Product: "Coldisplay" all-purpose display case of space-saving dimensions.

Manufacturer: Bally Case & Cooler Co., Bally, Pa.

Features: Measures only 51 inches long, with approximate total capacity of 21 cu. ft. Three shelves



provide 15 sq. ft. of display space, and storage compartment offers 8 cu. ft. of space beside the compressor. Interior fluorescent lighting. Interior display section and entire exterior finished in white porcelain. Storage compartment lined with stainless steel. Three thicknesses of plate glass prevent fogging or sweating of display front. Insulated with 4 inches of Armstrong Cork in sulation. Cooled by heavy duty ½-hp compressor connected with flexible tubing.

Transparent Lids P-243

Product: Full line of transparent, plastic tops for frozen food cabinets. **Manufacturer:** Banner Engineer-

ing Co., Milwaukee, Wis.

Features: Adaptable to even the smallest chest type frozen food cabinet, these crystal-clear Plexiglas lids are available in sizes from 4-hole to 12-hole cabinets. Extremely light,

shatterproof, resistant to warp, and easy to clean, these transparent, sliding top sections can be installed simply by removing solid tops and setting new lids in place. Prices range from \$29.75 to \$89.25.

FREE LEAK DETECTORS

Kobbe Laboratories has announced a new refrigerant leak detector for locating leaks of Freon, methyl chloride, and other halogenated hydrocarbon gases. This leak detector is in the form of a slender taper which in use is lighted and then held near suspected points of leakage. If any part of the flame turns blue a leak of some seriousness is indicated. Each taper burns for about 12 minutes, and can be used repeatedly.

These detectors are handy to carry in the pocket or tool kit for quick and easy tests to make sure there is no leak of consequence. They are intended to supplement the halide lamp, which is recommended for more critical examination at longer intervals.

If you would like a free sample envelope containing several of these tapers, address your request to THE REFRIGERATION INDUS-TRY, 1240 Ontario St., Cleveland 13, Ohio.

Joint Seal P-244

Product: New method for sealing vertical or horizontal spot-welded flange joints in refrigerator cabinets or elsewhere where a seal against air, moisture, or dust is required.



Manufacturer: Presstite Engineering Co., St. Louis.

Features: Uses Presstite "Permagum" sealing compound placed into an extruded plastic channel, providing a fool-proof positive seal easily and quickly. Plastic channel can be furnished in random or cut lengths as

required. When used on exterior flange joints, this channel provides an attractive trim.

Dual Thermometer P-245

Product: "Duo-Therm" dual purpose thermometer for use in connection with refrigeration units of all kinds.

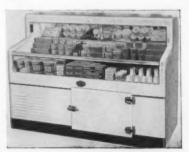


Manufacturer: Jas. P. Marsh Corp., Skokie, Ill.

Features: Contains two thermometers combined to indicate both freezer and room temperature. Upper scale reads from —30 to 65 F. Lower scale reads from 20 to 80 F. Freezer thermometer is a distant reading Bourbon tube type provided with 5 feet of capillary tube. Room thermometer is bi-metallic type. Convenient mounting bracket provided. Unit contained in black satin finish case with chromium rim.

Self Service Case P-246

Product: Five-model line of opentype self-service display cases for dairy, produce, delicatessen, and meats.



Manufacturer: Federal Refrigerator Mfg. Co., Waukesha, Wis.

Features: Line includes 7, 10, and 12-foot models, top display and double duty. All models except 7-foot model will be remotely con-

trolled, requiring a ¾-hp condensing unit. 7-foot model is self-contained, designed for double duty case for small store or as an auxiliary case in larger store. Porcelain exterior, mirrored eye-level display, and slimline lighting. Extra refrigerated shelf area increases display space by almost 50%. 7-foot model offers 20½ sq. ft. of display area, plus 14-cu. ft. storage compartment.

Dehumidifier P-247

Product: "Humidry" low cost dehumidifier capable of removing 34 pints of water a day from the atmosphere of a normal sized room in a humid climate.

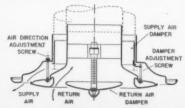


Manufacturer: Carrier Corp., Syracuse, N. Y.

Features: Operates inexpensively on 1/3-hp motor. Particularly applicable to homes in warm climates which are closed for all or part of the summer and where furnishings and decorations suffer from mold or mildew. Can be used in all climates for basements or other areas where dampness causes deterioration and discomfort. Also can be used to prevent rust on tools and to preserve permanent records in vaults against mold. Can be plugged into an ordinary electrical outlet, with only a connection for running moisture down a drain.

Air Diffuser P-248

Product: "Kno-Draft" adjustable air diffuser for use where air is to be both discharged from and returned or exhausted through a common unit.



Manufacturer: W. B. Connor En-

gineering Corp., New York City.

Features: Supply air is discharged from between the outer and intermediate cones, and return or exhaust air is drawn through the center section of the diffuser. Designed so that supply air is ejected radially away from return air opening, eliminating any short-circuiting of supply air into the return air opening. Supply air volume controlled by a cylindrical, sliding, sleeve-type damper fitted snugly to the inside of diffuser neck. Varying air direction is ac-

complished by raising or lowering inner assembly.

Insulation Sealer P-249

Product: "Sub-Zero" sealer for use in the insulation of refrigerated equipment to keep vapor from the insulation space.

Manufacturer: Armstrong Cork Co., Lancaster, Pa.

Features: Resilient, moisture and vapor proof, and sufficiently pliable to resist normal impact and torque

HEAT-X-CHANGER BEER COOLERS



NO FREEZE-UP DAMAGE
STAINLESS STEEL BEER COILS
SIMPLE TO INSTALL
HIGHLY EFFICIENT

SEPARATE BEER, WATER AND REFRIGERANT COILS CAST IN AN ALUMINUM BLOCK

 No accessories such as surge drums, oil separators etc., are needed. No chance for beer to lose its carbonation, or to become contaminated.

The aluminum block provides cleanliness, sanitation, and exchange of heat between copper water coil, stainless steel beer coils and copper refrigerant coil. Coils cannot expand and become damaged in event of freezing.

THE HEAT-X-CHANGER CO., INC. 415 Lexington Avenue, New York 17, N.Y. Brewster, N.Y.

action. May be used in all-steel construction; where it is poured along the welded seams and under the breaker strip. In combination wood and steel construction it is poured along the joints where wood and steel meet. Has melting point of 240 to 260 F. At -10 F. a 1/16-inch film of sealer on 30-pound kraft paper can be bent slowly around 1-inch mandrel without cracking. Sealer is odorless and bonds tightly to virtually all materials.

Two-Way Faucet P-250

Product: "Trumpet" beverage dispensing unit providing two-way service from same draft arm, one position drawing mixed carbonated beverage and the other providing clear soda water.

Manufacturer: Wooster Brass Co., Wooster, Ohio.

Features: Especially adapted for use in bars and taverns. Available as complete self-contained unit in modern stainless steel cabinet, or it



can be provided for installation right in existing bars and soda fountains. Basic operating unit consists of a 5gallon, high pressure, stainless steel syrup tank, connecting lines, fittings, and draft arm. Mixing head in draft arm accurately controls proportion of syrup and soda water for carbonated beverages. Draft arm can be installed in any number of locations on bar and counter. Available in three styles-goose-neck, straight-arm, and under-the-bar models.

Non-Liquid Flux P-251

Product: "Divco" acid core solder with non-liquid flux.

Manufacturer: Division Lead Co., Chicago.

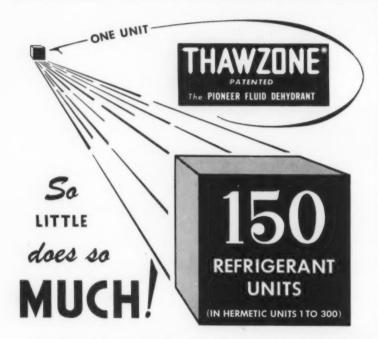


Features: Heavy, cream-like flux remains non-fluid and will not run out of solder core at normal temperatures. Does not take on moisture from air. When heat is applied it flows freely, and spreads and penetrates quickly. Works well on all solderable metals. Furnished in standard spool sizes and popular grades. Also solder washers and segments cut and pre-formed to specifications, Avoids messy spools and acid burns which often result from leakage of liquid flux.

Temperature Controller . . P-252

Product: Electronic temperature controller for controlling temperatures to close tolerances in solids, gases, or liquids.

Manufacturer: Instrument Div.,



To the engineer who knows his refrigerating plants, the above is a graphic way of illustrating one of THAWZONE'S important features in taking care of moisture problems.

The	1-oz.	bottle	treats	*8	lbs.	of	refrigerant	0
The	4-oz.	bottle	treats	*32	lbs.	of	refrigerant\$ 3.0	0
The	pint	bottle	treats	*128	lbs	. 0	f refrigerant\$10.0	0

*This figure is doubled for hermetic units. See how little it costs to use.

A TINY AMOUNT -> A BIG JOB - SMALL COST



"TRADE MARK REG. U. S. PAT. OFF.



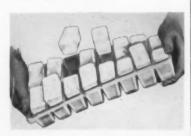
Thomas A. Edison Corp., West Orange, N. J.

Features: Uses a single electronic tube with an electrical resistance type bulb for thermal pick-up. Device is of the on-off type and is non-indicating. Units available to cover temperature range from -100 to 1200 F., and are adjustable within a range of several hundred degrees. Use of resistance bulb permits location of sensing element at a point remote from control panel and eliminates need for thermal compensation. Complete control panel furnished. Normal response time under three seconds. Accuracy independent of usual variation.

Ice Cube Tray P-253

Product: "Roto-Tray" plastic ice cube tray.

Manufacturer: Republic Molding Corp., Chicago.



Features: Made entirely of Du Pont's "Polythene" plastic, it is flexible, shatterproof, odorless, and tasteless. Tray will not stick to freezing compartment; cubes will not stick to tray. Cubes ejected by merely twisting tray. Eliminates chopping and tugging and use of running water. Available both as original equipment and for replacement purposes.

Drink Dispenser P-254

Product: "3-N-1" drink dispensing unit designed to serve two flavored drinks, plus drinking water, from one faucet.

Manufacturer: American Dispenser Corp., Chicago.

Features: No discoloration to clear carbonated water, even though Coca Cola or ginger ale has been served a split second before. Eliminates all pressure syrup lines, separate tanks, and mechanical difficulties, as it is designed entirely on gravity

principle. May be installed in any old or new bar. Only installation necessary is to run seltzer line to unit and mount the unit itself with six screws. Averages 6 seconds for drawing of an 8-ounce drink. Lockedin "booster" gives up to 25% more carbonation, plus perfect mixture from tank or carbonator.

Pump Plier P-255

Product: Model B34 pump plier, not generally available since the war. **Manufacturer:** Bonney Forge &



New TEMPRITE CARBONATOR achieves peak operating efficiency



MODEL C8-305 Temprite Packaged Carbonator is applied to existing cooling systems. Combination cooler-carbonator also available. Write for bulletins.

- 1. User gets up to 5620 glasses of highly carbonated water from a single tank of CO_2 gas. This is equal to 281 glasses per pound of CO_2 gas used.
- 2. No loss of CO2 gas through purging or venting.
- 3. Offers completely automatic carbonation for use in soda fountains, taverns, coin operated beverage dispensing machines, etc.
- 4. Operates independently of city water pressure.
- 5. Complete assembly, ready to install and mounted on a rigid steel base, includes pump and motor. Measures only 13" x 16". Fits in practically any location.
- 6. Stainless steel, long-life construction.

TEMPRITE PRODUCTS CORP.

Originators of Instantaneous



Liquid Cooling Devices

41 PIQUETTE AVENUE

DETROIT 2, MICHIGAN

Tool Works, Allentown, Pa.

Features: Designed for general use and has wide range of adjustment, permitting high leverage on objects in a wide range of sizes. Jaws are maintained in a relatively parallel position to eliminate slippage and subsequent rounding of corners. Patented design removes load or strain from bolt. Tool is 9 inches in length.

Beer Coolers P-256

Product: Three newly designed

heavy duty draught beer coolers.

Manufacturer: Temprite Products Corp., Detroit.

Features: Capable of dispensing 40-degree beer during continuous peak load demands. Will draw either one or two different brands of beer, plus cooled water or soda. Intended for use where beer kegs are located in warm area and where no precooler is provided. Four similar medium-capacity models which complete the line are intended for use where beer kegs are stored in precooler or where load is relatively light. All models

equipped with oval shaped stainless steel beer coils, especially designed to control both rate of beer flow and rate of cooling. Each unit is equipped with an internal low-side float valve refrigerant feed and a constant-pressure temperature control valve.

Illuminated Rule P-257

Product: "E-Z-C" illuminated, flexible, 6-foot metal measuring tape for making accurate measurements in poorly lighted places.





Manufacturer: Cowhig Industries, Boston, Mass.

Features: Combination p o c k et flashlight and metal measuring tape. No larger than a cigarette package; weighs only 5 ounces. Sturdy aluminum construction with high finish. Snap-back rule has etched figures on polished high carbon steel. Easily replaced battery and magnifying spotlight type lamp.

Bench Lathe P-258

Product: Low priced 10-inch bench lathe (Model L-44) for small shops.

Manufacturer: Sheldon Machine Co., Inc., Chicago.

Features: Embodies basic features or larger industrial lathes, with 34-inch collet capacity, tapered roller spindle bearings, double walled worm feed apron with power cross feed, and full quick change gear box that gives a thread-cutting range of from 4 to 224 threads per inch. Lathe has 1/16-inch hole through spindle and an integral horizontal motor drive. Four-step V-belt motor drive designed to take either ½ or ½-hp motor.

ABOUT PEOPLE . . .

Continued from page 40

Toronto, where he was manager of that company's air conditioning division. In his new position he is charged with the responsibility of setting up a Canadian dealer organization for the distribution of Servel-Schnacke condensing units and allied products.

E. S. Ronk, sales manager of Bowser, Inc., Refrigeration Div., Ter-



ryville, Conn., has been named general manager of the company. He succeeds M. J. Kennedy who has accepted a position with Renfrew Electric Co., Renfrew, Ont., Canada.

Ronk entered the employ of the company in 1943 as a purchasing agent. He became sales manager in 1945, a position he will continue to occupy temporarily in addition to his new duties as general manager.

Robert Beecher Briggs has been appointed chief engineer of The Bloom System, which manufactures market preparation machinery for fresh fruits and vegetables. He will be in charge of research, development, and design engineering for the company. Once before a member of the Bloom organization, Briggs for the past six years has been connected with three different chemical firms engaged in the atomic energy program.

Charles R. D'Olive has been named vice president and general manager of the newly created Ingersoll Utility Unit Div. of Borg-Warner Corp. D'Olive was for many years manager of the appliance division of Stewart-Warner Corp., Chicago, simultaneously serving as vice president and officers' committee member of the board of governors of the National Electrical Manufacturers' Association. During World War II, he was president of Frederick Hart & Co., producer of aircraft engine components and radar controls. D'Olive's

appointment as division operating head practically completes the organizational changes incident to the establishment of this separate unit.

Three new personnel appointments have been announced by General Controls Co. Don S. Bentley has been named factory branch manager of the company's Los Angeles branch, F. E. Weldon is the new factory branch manager of the New York office, and C. G. McCarthy has been named to a similar position in Detroit. Bentley

has been with the company for some time as a factory sales supervisor. Weldon has been with the company in the capacity of A. G. A. representative in Cleveland.

Frank H. Toler, formerly district representative with headquarters in Denver, has been appointed manager of water cooler sales, for Norge Div., Borg-Warner Corp. Toler will concentrate on national sales and promotion of the company's new "Waterboy," portable water cooler. His

HAND-SIZE APPLIANCE TESTER for volts, amperes, watts

Here is the first appliance tester ever made that gives you volt, ampere, and wattage readings all from one small, compact instrument.

Model 390 slips easily into a large pocket, weighs only a pound and a half, is designed for hard, continuous service.

The range of uses for this volt-amp-wattmeter is almost unlimited in checking line voltage, current drain

in checking line voltage, current drain and power consumption, the three simple tests which will diagnose most cases of electrical trouble. In fact, practically any household electrical appliance that has a motor or a heating element, can be tested by the 390, as well as certain industrial installations.

You merely plug Model 390 and appliance to be tested into the Break-In plug furnished—voltage will read. To read watts or amperes, simply press one of the two buttons at bottom of the panel.

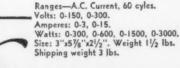
Aside from its unique features, Model 390 has no equal among appliance testers in quality alone. The famous Simpson quality makes investment in the Model 390 an investment that will return a rich yield in satisfactory service through the years.

USE MODEL 390 FOR TESTING

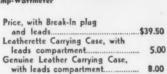
Refrigerators
Deep Freezers
Washing Machines
Irons
Toasters
And all similar appliances.

Motors
Electric Heaters
Radio Sets
Lamps
Yacuum Cleaners

Simpson Model 390 Volt-Amp-Wattmeter







SIMPSON ELECTRIC COMPANY 5200-5218 W. Kinzie St., Chicago 44, III. In Canada, Bach-Simpson Ltd., London, Ont. headquarters will be in the Norge central office in Detroit.

William C. Mayfield has been appointed assistant southeastern zone manager of Kelvinator Div., with headquarters at Atlanta. Mayfield joined Kelvinator in 1937 as sales representative. After 36 months in the Army, he returned to Kelvinator in 1946, and since then has been assistant sales manager of Leonard Div.

M. F. Noble and E. W. Gutgsell have been named assistant sales managers of Fresh'nd-Aire Co., Chicago. They will assist J. W. Wallace, sales manager, in directing the efforts of the Fresh'nd-Aire national sales force.

Mel W. Lewis has been appointed manager of the Cleveland factory branch office of General Controls Co. He has been associated with this company in San Francisco for the past 10 years. The Cleveland office serves most of Ohio, western New York,

northwestern Pennsylvania, southeastern Indiana, and central Kentucky.

Lee D. Nutter has been appointed assistant manager of purchasing for the General Electric's appliance and merchandise department. Nutter was previously district representative on refrigeration in the Atlantic district with offices in Philadelphia.

Two new sales offices have been opened by the Sporlan Valve Co., one in San Francisco and one in Atlanta, Ga. Merle G. Haynes, long active in West Coast refrigeration circles, has been placed in charge of the San Francisco office, while David M. Lawson will handle the Atlanta of-





M. G. Haynes

D. M. Lawson

fice. Haynes will cover an eight-state territory including Arizona, California, Idaho, Nevada, Oregon, Utah, Washington, and a part of Montana. Lawson's territory comprises Alabama, Florida, Georgia, Mississippi, North and South Carolina, Tennessee, and a portion of Louisiana.

J. R. McCord has been appointed manager of the equipment and appliance division of Owens-Corning Fiberglas Corp. This division is responsible for the sale of Fiberglas materials to manufacturers of rerigeration, air conditioning, and heating equipment. W. Whitney Kuenn has been named to succeed McCord as appliance sales manager.

Safe-Way Food Locker Co. has announced the appointment of A. A. Rogers as its Pacific Coast sales representative. Rogers formerly operated in the Middle West as a contractor specializing in the erection of locker plants. For Safe-Way he will cover eleven western states, with headquarters in San Diego, Calif.



COMMERCIAL SALES . . .

Continued from page 44

is agreed on by the dealer and salesman. Setting the Selector for these two factors, it automatically determines the salesman's weekly salary commissions on sales, quarterly and yearly bonuses and anticipated annual earnings. The Selector also shows what the salesman will earn if he goes over or under his quota, and the amount of dealer sales cost.

The Sales Evaluator is used by the dealer and salesman to establish a fair and equitable credit on each sale in direct proportion to the gross profit that each sale yields to the dealership. The same credit applies against quotas to determine whether or not the salesman will receive quarterly and yearly bonuses.

The entire system was developed after months of research and mathematical computation by George Plumly, of Frigidaire's sales department, who last year devised a similar compensation plan for Frigidaire appliance dealers and salesmen.

The Selector is comprised of three dials and includes 160 variations of the basic plan, especially designed to fit every type dealership and individual salesman. These dials contain more than 20,000 different tabulations compiled after many thousands of painstaking mathematical calculations.

These two mechanical brains are expected to go a long way in eliminating hit-and-miss methods experienced by the commercial refrigeration selling field, customary because of the extremely variable nature of the business itself.

STEINHORST HOLDS FIRST POSTWAR DEALER MEETING

About 100 dealers of Emil Steinhorst & Sons, Inc., manufacturer of milk coolers and home and farm freezers, attended the company's first postwar interstate sales and service convention at the Hotel Hamilton in Utica, N. Y.

Dealers from Pennsylvania, New Jersey, and Connecticut, as well as New York, sat in on the three-day session which featured talks on merchandising, construction, sales promotion, and equipment servicing.

Steinhorst officials including Henry Steinhorst, president, Robert E. Steinhorst, sales promotion manager,

Steve Roser, convention chairman, and Muriel J. Steinhorst, advertising manager, were on hand at all times.

Representatives of various Steinhorst suppliers also were present to discuss the applications of their products to Steinhorst equipment. Among these were Jim Madden and Al Schmitz of Servel, Inc., Dean Eggert and Frank Tanler of White-Rodgers Electric Co., and Jack Strauss of Detroit Lubricator Co.

Representatives of Steinhorst distributors who participated in the convention program included Bob Hamilton of Pennsylvania, Waddy Fyler of Connecticut, Stanley Talbot of New Jersey, and Long Island, and Arthur Beden of Michigan.

ALTER SUMMER CATALOG

The Harry Alter Co., Inc., Chicago parts wholesaler, has announced issuance of its summer catalog, "Dependabook" No. 147. New lines added include Jack & Heintz motor parts, Marathon Electric motor parts, and Chieftain high sides.



For Low Temperature Equipment

Space saving ceiling type Water Defrost coils are rapidly taking the lead in low temperature installations. Large cold storage warehouses are specifying "Recold" water defrost coils because they provide dependable refrigeration protection and save a great deal of valuable floor space. Thousands of other installations in single coil or multiple units jobs are being made from Coast to Coast. You will find it very much to your advantage to get full information regarding the complete Recold line of refrigeration equipment. Mail the coupon below.

REFRIGERATION ENGINEERING, INC.

7250 East Slauson Ave., Los Angeles 22, Calif



"RE	co	LD"		
725	0 E	. Sla	uson	Avenue,

Please furnish us with complete information on "Recold"

equipment.

Address

City Zone State



TRIPLE PROTECTION

LOWER COST!



... with CESCO's No. 605 Fume Kit

CESCO'S Healthguard Fume Kit (No. 605) offers triple protection to refrigeration servicemen. Quick-change filter cartridges assure safety against ammonia, methyl-chloride and sulphur-dioxide fumes . . . all in one convenient carrying case.

The soft moided rubber face-piece of the fume mask, and the adjustable headgear assure a gastight, comfortable fit for every wearer. Large safety glass lenses give perfect visibility.

The CESCO Healthguard Kit provides economical protection because it is moderately priced.

Write for CESCO'S No. 605 Safety Bulletin for complete information

CHICAGO EYE SHIELD CO.

2340 Warren Boulevard Chicago 12, Illinois





Officers of the Maryland Association of Refrigeration Contractors, Inc., the 25th local association to affiliate with the National Association of Refrigeration Contractors, pose for their picture. Left to right: Reese Nuckols, director; Harry W. Goodhart, secretary; Jack Frazier, sergeant-at-arms; Jack B. Ottenheimer, president; Aaron M. Aaron, treasurer; Kenneth C. Milford, vice president. On hand to present the group with its certificate of membership in NARC were Joe Helminak (extreme right) executive vice president of the national organization, and Ralph Lampie (second right) national director.

CONTRACTORS . .

Continued from page 43

"Freon" supply is limited might adopt a policy of selling the refrigerant only to customers who return

POCKET
GASKET
SELECTOR
ACTUAL SIZE
COSTS WETCHIN
TO SERVICEMEN
AND CONTRACTORS
Get your Gasket Selector from
your Wholesaler ar write:

empty cylinders. This, it was thought, would relieve somewhat the cylinder supply problem, cited by the manufacturer as the most critical factor in "Freon" shipments at present.

The question of preparing plans to forestall a possible repetition of the drain on trained refrigeration manpower in the event of a major draft law's passage was discussed, but it was decided that action at the time would be premature since exact draft plans are not settled at present.

It was also pointed out that the actual deferment of refrigeration mechanics during World War II was handled at the state or local level, for the most part, and that this would probably hold true when the draft is reinstated. Directors, however, are giving the matter some thought.

Approval also was given the preparation of a standard guarantee form for use by contractors; when this has been agreed upon, copies will be available to NARC members.

One important purpose of the guarantee form will be to define clearly the contractor's responsibility. The contractor, it was suggested, should guarantee only to make repairs, not to "keep the machine running" during the guarantee period. Such a move would avoid liability by the contractor for "consequential damages" (damage to products stored under refrigeration, for example) if the equipment fails.

The problem of unions also was discussed at length. A statement was

authorized to the effect that "there is still a labor problem in the industry and NARC stands ready to actively assist local groups in their problems".

Plans for the next annual meeting were discussed, and although no definite date was set by directors, it was decided to hold the affair next fall at the time of the RSES regional educational conference in Chicago.

The proposed code of ethics was discussed, but will not be released until further revisions have been made and the entire code has been edited. It was estimated that this would require another two or three months. The code was originally approved by the membership at the January meeting, except for two items.

MARYLAND ASSOCIATION 25TH TO JOIN NARC

(See photo on page 76)

The Maryland Association of Refrigeration Contractors, Inc. became the 25th local association to affiliate with the National Association of Refrigeration Contractors. Formal application for affiliation and presentation of certificate of membership took place at a meeting May 10 in the Deutsches House, Baltimore.

Attending the meeting were more than 35 contractors from Baltimore and the surrounding area.

Representing NARC at the meeting were Ralph Lampie of Richmond, Va., a national director and Eastern Division membership chairman, and J. J. Helminak, executive vice president.

NARC president Ed Wright, unable to be present in person, nevertheless spoke to the newly affiliated group by means of wire recorder, giving an inspiring talk on the aims and objectives of NARC and stressing the value of cooperative effort at both local and national levels.

NARC is suggesting to all local associations that they equip themselves with wire recorders, if possible, in the interest of a better interchange of ideas and the stimulation of interest in national association happenings through messages distributed among affiliated local groups.

George Roche, Baltimore refrigeration wholesaler and past president of Refrigeration Equipment Wholesalers Association, attended the meeting as a guest. He congratulated the group on their activity and assured them of the cooperation of wholesalers in every possible way.

salers in every possible way.

Officers and directors of the Maryland Association are:

President, Jack B. Ottenheimer, Perfect Refrigeration Co.; vice president, Kenneth Milford, Superior Refrigeration Sales Co.; secretary, Harry W. Goodhart, Premier Refrigeration Co.; treasurer, Aaron M. Aaron, Arco Refrigeration Service; sergeant-at-arms, Jack Frazier, Electric Refrigeration Co.

Directors include Louis Ambrosetti.

A. & A. Refrigeration Service; Henry J. Bensel, Henry J. Bensel Co.; Reese Nuckols, Electric Refrigeration Sales & Service; and Jerry Scherr, Pioneer Refrigeration Co.

VETERAN REFRIGERATION INSTRUCTOR DIES

Jesse C. Blair, refrigeration apprentice instructor and coordinator of the Frank Wiggins Trade School in Los Angeles, died March 28 following a heart attack. He was 62 years old. He had been teaching refrigeration since 1932.

At last — Single-Pass Drying!

-made possible by the NEW

DFN MOISTURE CONTROL UNIT

- Gets system operating in matter of minutes
- Prevents deposit of ice in expansion valves or evaporator

Systems slowed down or stopped by moisture can usually be restored to normal operation in 15 to 30 minutes, with the DFN Moisture Control Unit. A single pass of the refrigerant thru the Unit dries down to -20° dew point . . . to -60° dew point in 24 hours. Dries at refrigerant temperatures up to 150° F.

The DFN Moisture Control Unit is portable, easily attached to liquid line. It tells if system is wet—thoroughly dries it—then tells when dry. May be used in field, shop or factory. One cartridge has capacity to dry equivalent of ten one-ton systems—or over 13 teaspoonfuls of water. Also ideal when charging new or old installations.

The DFN Moisture Control Unit quickly repays its cost by saving time, eliminating guesswork, reducing call backs, getting systems back in action faster. See the Unit at your wholesaler. Write us for detailed literature.

McIntire Connector Company 257 Jefferson St., Newark 5, N. J.



Saved merchandise. ¾ hp. Reach-In Display Box unable to get lower than 48-52°, despite 18 service calls. \$200.00 in merchandise already lost. DFN Moisture Control Unit indicated high moisture content. Within less than one hour temperature down to required 35° and system operating on normal cycle.

LINGLE

REFRIGERATION EQUIPMENT

The New Lingle Meat Display Case

A meat display case with exclusive Lingle features.



Compare the price . . . You will agree that this case does have a definite appeal to your customer in dollar for dollar value.

Available in 6, 8, 10, and 12' double duty models.

6' size

Lingle Walk-in Refrigerators, Dry Beverage Coolers, Meat Display Cases, Cold Storage Doors and Sectional Reach-in Refrigerators. See your Wholesale Jobber in your territory or write to the Kansas City office for complete sales information.

LINGLE REFRIGERATOR COMPANY, INC.

95th & Troost, Box 7111 Country Club Station, Kansas City 2, Mo.

THERE'S A MILLS FOR EVERY INSTALLATION

choose them for yours!



MILLS

condensing units

Mills Industries, Incorporated • 4100 Fullerton Avenue • Chicago 39, Illinois

"FREEZE AND SQUEEZE" IS NEW DEHYDRATING METHOD

A high-efficiency method for concentrating liquid solutions of lessthan-eutectic mixture is being readied for widespread application by Commonwealth Engineering Co., Dayton, Ohio.

The patented process involves only three steps. The solution to be concentrated is completely frozen, and the ice is finely divided. Application of pressure to the crystal mass releases the concentrate in liquid form, leaving virtually all water as ice.

In fruit juice processing, all vitamins and minerals are contained in the liquid extract. The simple addi-



"Would you mind adjusting that air conditioning system a bit? I've lost my toupée!"

tion of water restores the concentrate to its original state, with flavor intact. Juice concentrates have a sugar content of 60% or more, and so are self-preserving indefinitely without additives of any kind.

Important savings in packaging and shipping are realized, as the process reduces bulk to one-third or less.

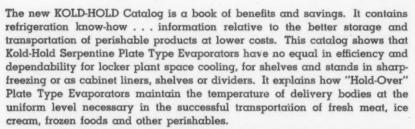
Advantages of the new "dehydrating" method extend to other fields, as well. Chemical and pharmaceutical processing, the handling of blood plasma, and various industrial activities are expected to benefit.

Complete designs for low-cost plants are being readied by Commonwealth Engineering, an applied industrial research organization, which plans widespread licensing of the system among fruit processing associations, chemical manufacturing firms, and other interests.



contents

Refrigeration KNOW HOW



If you are interested in better storage and transportation of your products, write for this new free book of refrigeration knowledge today.





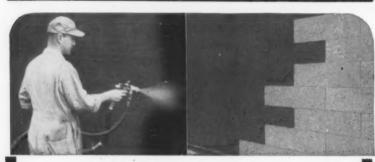




ACE CABINET CORP.

NEW BEDFORD, MASS.

Manufacturers of: Ice Cream Dispensing Cabinets, Upright Ice Cream Storage Cabinets, Home and Farm Freezers, Frozen Food Display Cabinets, Creamer Soda Fountains, Bobtails and Sandwich Units.



Less Labor COST—Better Insulation SEAL

The MODERN way — spraying asphalt adhesive COLD — gives the contractor a lower labor cost — and the customer a complete, uniform vapor-sealing of his insulation which means less



INSULATION ADHESIVE

Applied COLD

Spray Laykold Adhesive on the wall-let set-apply Spray Laykold Adhesive on the wall—let set—apply vapor-sed membrane. Spray the overlaps, press down light by hand or small roller. Goes on smooth, no lumps, no air pockets, TIGHT ADHE-SION. Spray over the membrane, spray the insulation blocks and install—much aceise, FASTEN Re fire hazard—no fumes—adheres to damp or dry surfaces—self-heals nails, skewers, cracks, etc.—stays ALIVE.

Try Laykold Products on ONE job, reduce labor

HYDROPEL - an admix to reduce water absorption in concrete. FLOOR MASTIC BINDER - to make ideal floors for cold rooms.

FIBRECOAT - protection for metal and bituminous roofs. REFRIGERATION BINDER - for

WEATHERCOAT - protection for

block insulations, concrete, brick.

waterproof plaster finish and with Lumnite, a wet wall adhesive.

Ask our nearest office for literature, specifications, prices.

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AMERICAN BITUMULS COMPANY 200 BUSH STREET - SAN FRANCISCO 4. CALIF.

0401400 t 04140 LOS ANGELES IS, CALIF. TUCSON, ARIZ.

COLUMBUS 15.0 . ST. LOUIS 17. MO

WASHINGTON &. D. C.

BATON HOUGE 2, LA. . SAN JUAN 23, P. R

A WAR BABY . . .

Continued from page 47

set a rate of \$3 an hour. Home service on domestic refrigerators is billed at the rate of \$2.50 an hour.

While sales of refrigerators, ranges, washing machines, space heaters, and other appliances are being promoted heavily, Mingledorff's has not forgotten its contracting background. Complete drafting and engineering offices for all types of air conditioning are incorporated at the rear of the store. On the staff are several engineers, including Rankin, A. L. M. Amphlett, H. D. Hungerford, and J. L. McDevitt.

The large service shop and the extensive installation experience behind the firm will be invaluable in merchandising complete packaged electric kitchens, package air conditioning for Georgia homes, and model laundries. Rankin believes.

THE civil court of record courtcourthouse at Miami, Fla., will be air conditioned at a cost of \$9,000. Contract for installation of the system was signed as a joint project of the junior section, Dade County Bar Association and the University of Miami Law School Alumni Association.

Installation of the unit is expected to save thousands of dollars a year in man hours lost because of heat and noises.

BEN-HUR NAMES OUTLETS IN WEST AND SOUTH

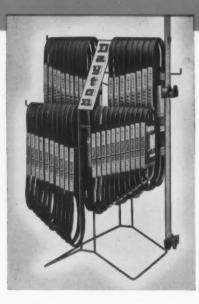
Seven new distributors have recently been appointed to handle Ben-Hur farm and home freezers in southern and western states, according to A. B. Bechaud, vice president of Ben-Hur Mfg. Co., Milwaukee.

These include: Covington Distributing Co., Houston, Tex., who will cover east central Texas; James-Stevens Co., Albany, Ga., and Power Electric & Supply Co., Macon, who will handle sales in southern and central Georgia, respectively; Tri-States Distributing Co., Shreveport, La., who will handle northern Louisiana; Orgill Bros. & Co., Memphis, for Mississippi, Arkansas and western Tennessee; Standard Supply Co., Salt Lake City, for Utah, Idaho, eastern Nevada; and Western Implement Merchandisers, Inc., Los Angeles, who will be responsible for sales in southern California.



You'll make MORE SALES

with DAYTON FHP V-BELT SALESMAKERS!



SENIOR SALESMAKER

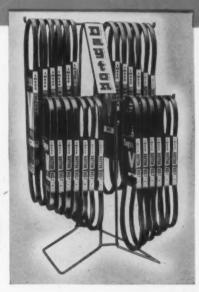
With 39 fastest selling Dayton FHP Belts brings big dealer profits.

Dayton V-Belts are used on millions of refrigerators, washing machines, pumps, compressors and all types of fractional horsepower motors.

JUNIOR SALESMAKER

With 25 fastest selling Dayton FHP Belts brings a good profit on small investment.

Popular Dayton V-Belts are available for all small machinery use. Recognized as a quality product the moment they're displayed—they move fast.



Painted in bright attractive colors, Dayton Salesmakers are compact, eye-catching units specially designed to attractively display the entire assortment of nationally advertised Dayton fractional horsepower V-Belts. These easy-to-erect displays are arranged so customers can easily select the size V-Belt they need...all you do is ring up the sale. Included in each assortment of fast-selling, quality Dayton V-Belts are up-to-the-minute merchandising aids designed to label you headquarters for DAYTON—the recognized name in V-Belts. Known from coast to coast, Dayton is the only V-Belt built with Raytex Fortified Cords—specially processed Dayton rayon—for maximum pulling power and

longest life. Don't wait! Tie in now with Dayton. Remember, with Dayton, you get complete selling tools designed to get you more V-Belt sales. You'll make sales faster, more profitably with the Dayton line. Write today: Dayton Rubber, Dayton, Ohio

MAXIMUM COVERAGE SALESMAKER

178 belts...122 sizes. Designed to service 99% of your V-Belt customers. This is the ideal assortment for the larger dealers with a steady traffic flow.



Dayton THE MARK OF TECHNIC

OB BULDERS
THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER



COOL PROFIT . . .

Continued from page 42

about the same and that the selfcontained units offer far greater flexibility of arrangement. Dependability of operation is another factor in this swing toward the packaged units, for any such unit can be readily replaced if it becomes defective, while in the remote systems if one outlet goes bad the whole system is tied up until the trouble is remedied.

Stone has found that in the sale of this packaged type of equipment an adequate showroom is a requisite, for most customers want to actually see the unit they are going to buy and mere catalog pictures won't suffice. That is one of the principal reasons why the firm is now enlarging its quarters, but of course the added space will also provide more sorely needed working room for the men in the service department.

Despite the general trend toward packaged units, there are still a wide variety of applications for which an engineered system is required, Stone explains. To mention just a couple of such applications, there are photographic processing laboratories which must maintain constant control of their water temperature in order to keep their processing solutions at the critical point which is required, and there are optical goods manufacturers which need a constant stream of 50 F water to cool lenses and contract them so that they will pull free from the clay mold in which they are cast.

No job is too big for the G & E organization to tackle. The largest water cooling installation made by this firm to date is a 50-ton system used in the Firestone Tire & Rubber Co. plant for "pasteurizing" rubber. This

UNIQUE thermoplastic material that is tough, light in weight and easy to form into compound shapes, is now being manufactured by United States Rubber Company. It is non-corrosive and stable under changing atmospheric conditions, with exceptional electrical insulating properties and a low rate of heat conductivity.

Because of its high impact strength, low water absorption, and insulating properties, it is being used for a new type of shipping container for dry and frozen foods, as well as in home freezers, commercial freezing units and other products.

The material, known as Versalite, can be formed into irregular and compound shapes as large as 5 feet by ten feet. It can be made in almost any thickness above .020 inches. It can have solid color throughout, with dull, satin, gloss or embossed finish. It will not chip or warp and is resistant to gasoline, oils and most commercial cleaners.

Methods of bonding the material to itself or other materials in production have also been developed. Cutting, drilling and punching can be accomplished on ordinary wood or metal working equipment.

system cools 100 gallons of water per minute from 60 to 38 F.

The servicing of water coolers presents its own particular problems, says Stone, but none so tough that a trained refrigeration mechanic can't handle them. Different makes of coolers have different weaknesses, he has found, and an experienced man usually knows just about what to look for. Most of the difficulties which develop are of the type which cannot readily be repaired on the spot, so Stone's service shop is a busy place.

The increasing use of hermetically sealed refrigerating units in packaged water coolers is complicating the

NEW LOOK

AND FOR YEARS TO COME! THIS FINE FEDERAL

OPEN CASE

has eye appeal . . . that makes new sales climb. Advanced engineering . . . gives Low operating cost — Modern production methods give you initial low cost.



SELF-SERVE
SEVEN FOOT Self. Contained DOUBLE DUTY

- Another new Federal unit . . . same high quality
- Genuine porcelain exterior
- Mirrored Eye Level Display Kool-Brite Lighted
- Refrigerated mezzanine shelf increases display area
- Uniform temperature from full powered Self-Contained Condensing unit
- Fully air conditioned

The New Federal Line for '48 is satisfying thousands of wide-a-wake merchants,

Federal Food Preservation Products for Dairy . . . Produce . . . Delicatessen . . . Bakery . . . Frozen Foods . . . Meats, Etc. combine every last minute refrigeration feature.

Some desirable territories available on this new model and our complete line. Write for details.

Jederal REFRIGERATOR MFG. CO.

service problem considerably, Stone reports, for it precludes prompt repair by the serviceman. These units must be returned to the factory for service, and this means a delay of 60 to 90 days. This is not good for the water cooler business, says Stone, for most users just can't afford to be without their units for so long a time. Some printers, for instance, will stop their presses if there is an unreasonable interruption in their supply of cool drinking water. For this reason the G & E company makes a practice of providing "loaner" units where it is absolutely necessary.

Specialized Training

Stone's staff at the present time consists of three servicemen, each of which he has personally trained himself in this specialized line of work. One man has been with him for 7 years, one for 4 years, and one for 3 years. He also employs one girl to help handle the office routine. Stone himself does virtually all the sales work, in addition to helping out with the service work and generally supervising the entire operation.

The company uses two trucks and three private cars on its service calls, but all pick-up and delivery of units is contracted for by an independent trucking concern.

Stone does no advertising other than running display advertisement in the yellow pages of the telephone book, but gets about all the business he can handle through this medium and through the word-of-mouth advertising generated by his efficient service work.

Nationwide Business

The company's business is anything but local, for the G & E firm handles all water cooler service for such farflung organizations as oil companies and telephone companies. These firms ship units to him for repair from their branches and offices in points as remote as Texas and New Jersey.

The water cooler business, like most other refrigeration business, according to Stone, is highly seasonal in nature. The heavy load imposed during the hot weather months inevitably results in more breakdowns and more service calls. In an effort to even off this seasonal business curve, Stone has resorted to a program of contract servicing or preventive maintenance which he intensively encourages. The repair of trade-ins also helps take up

the slack, for those brought in when the men are busiest are held in stock until business slows up a bit before they are reconditioned for resale.

Stone has never engaged in the practice of renting water coolers, as some such companies do. "There's an outfit here in Indianapolis that does do that," he points out, "and that's just fine by us. Really it's just like so much free advertising, for sooner or later the companies which rent coolers will want to buy their own—and then they become just so many more potential customers for us."

SUNROC MAKES CHANGES IN CHICAGO, ATLANTA

Sunroc Co., of Glen Riddle, Pa., has appointed Dwight Dean manager of its Chicago branch, serving northern Illinois and eastern Wisconsin. Dean was formerly a distributor for the Sunroc company.

The company also has announced that Abner Goddard has been named to head up its Atlanta office. Neighboring distributor accounts in the Carolinas, Florida, Alabama, and Tennessee have been assigned to the Atlanta office.

LATEST "SHELVADOR"



Heading the 1948 line of Crosley "Shelvador" household refrigerators is this Model SD108, which boasts 10.5 cu. ft. of refrigerated storage space and 20½-z-sq. ft. of shelf area. An additional 1.53 cu. ft. of space is provided in the dry storage bin. Exterior measurements of this new unit are: height 65½ inches, width 33½ inches, and depth 24½ inches, Shelves are of stainless steel and glass. The 1.5 cu. ft. frozen food compartment has an extra thick, bottom hinged crystal glass door which, when open, forms a convenient shelf for rearranging food.

BUY FROM YOUR REFRIGERATION WHOLESALER

REWA members offer you

- Sound, helpful engineering advice on products.
- Local warehouse facilities with ample stocks to serve the trade.
- 3. Intelligent, competent sales representation, plus economy in handling credits, adjustments, etc.
- 4. Catalogs, advertising, and other promotional activities directed toward keeping the trade informed as to new products, changes in design, prices, etc.
- Progressive, business-like distribution contributing toward the stability of the industry.
- 6. Sound operating policies based upon ethical trade practices.

A REWA wholesaler is an important link in the nation-wide method of distribution which contributes so much toward the smooth function and stability of the industry. His intimate personal contact with customers and their needs forms the framework upon which the entire system operates. You buy with confidence when you buy from a REWA outlet.

180 MEMBERS MAINTAINING OVER 300 CONVENIENT OUTLETS

H. S. McCloud. Executive Secretary



MEMBER

920 East McMillan St., Cincinnati 6, Ohio

Better Compressor Operation Means More **Business** ASSURE BOTH WITH TEXACO CAPELLA

THEN a service engineer finds an oil that assures better compressor operation, he naturally continues to buy that oil month after month. That's why dealers and distributors do a larger volume of compressor oil business when they feature Texaco Capella Oils!

Texaco Capella Oils provide thoroughly effective lubrication for compressors of every size and type. They are moisture-free, have very low pour tests, do not react with refrigerants, and are highly resistant to gumming and sludging.

Service engineers prefer Texaco Capella Oils also, because they come in a complete range of viscosities, and are packed in handy 1-quart, 1-gallon, and 5-gallon sealed containers.

Leading compressor manufacturers approve and recommend the use of Texaco Capella Oils-another reason why they mean better business for you! The Texas Company, 135 E. 42nd St., New York 17, N. Y.

FREE LUBRICATION GUIDE New edition. Lists make and type of compressor and refrigerants in 64 Electric Refrigeration Units and 39 Air Conditioning Units. Shows recommended grade of Texaco Capella Oil for each. Use guide as wall chart or bind into service manual.



OILS

EXACO Capella Oils



Tune in...Texaco Star Theatre every Wednesday night featuring Gordon MacRae and Evelyn Knight...ABC Network

Meat Packer Cuts Cost of His Refrigeration Power About 50% With 3 WITTE Diesels



Ammonia compressors at National Meat Packers, Inc., Tampa, Fla., powered by WITTE Diesel Engines.

The first of three 12 H.P. WITTE Diesel Engines was installed at this plant of National Mest. Packers, Inc. in August, 1938. In March, 1948, after nearly in a years, Mr. N. Bosenbalt, owner, writes: "Resulting savings and dependiability were such we have since purchased two more ... our complete plant is refrigerated with the three compressors powered by the 12 H.P. WITTE's. It is our opinion we are operating in this manner at a cost of approximately one-half of what purchased power would cost."

Whether you need low cost, dependable engine pozer or abundant, cheap electric power and light, there's a WITTE Diesel Engine or Dieselectric Plant ideal for you—starting and operating on inexpensive, non-explosive Diesel true oil. Full Diesels—built to keep on earning profits for you long after returning first cost, investigate—now!





SANITARY Electric Refrigerators for trailer homes and city apartments will operate efficiently, when built in because they are specially engineered. Equipped with nationally known condensing unit. Available in 4 and 6 cu. ft. net sizes at attractive prices. The market is all around you and it's ready for the harvest, Write for detailed information.

SANITARY REFRIGERATOR CO.

THE PRACTICAL Refrigeration Engineering MANUAL ... by Harold Smith

XXIII.

Industrial Cooling of Coolants

PART III

MANY plants have restaurants and cafeterias using refrigeration in storage boxes, low temperature cabinets and other equipment. Private offices and sometimes general offices or production offices that are unusually hot and humid provide a golden opportunity to sell refrigeration equipment.

While air conditioning in the offices has no direct bearing on production, it has frequently proven to be of great value to business by stepping up efficiency of the employees. Many small offices can be adequately conditioned with a small self-contained unit; other larger offices

require special tailor-made installations.

Whatever is needed, be sure to carefully work up the load requirements to thus insure adequate and satisfactory results.

Also remember that wider use of refrigeration in factories materially increases the field and scope for future service operations. Manufacturers usually keep equipment in top condition, and therefore periodical inspections are looked upon with favor in most cases.

This is a big field. The wide awake engineer can find a big opportunity in this market if he goes after it and keeps his eyes open looking for future business.

XXIV. Room Coolers

MANY books have been written on the subject of Air Conditioning. Therefore, we will not attempt to cover this broad subject in the Manual, other than to touch on some general points of interest.

Probably the most commonly used type of air conditioning is the room cooler.

All of the many types of selfcontained air conditioning units, from the small window units to the larger self-contained floor units up to 10 tons or more in capacity are called room coolers. These units circulate the air present within the room, lowering the temperature of the air and reducing its relative humidity by condensing the moisture in the air as it is passed over the cold coil surfaces. Air changes are accomplished by natural infiltration or by the opening and closing of the outside doors.

Room coolers produce comfortable and pleasant conditions under normal service loads. The units are usually self-contained. The capacities are established by the manufacturers, so the field engineer has very little estimating to do beyond determining the load requirements. It is always necessary that a unit of

40-TON MARLO SYSTEM COOLS NEW ORLEANS RUILDING

A 40-ton central station air conditioning installation involving the use of a Marlo F-1750 floor type air conditioner with a Marlo EC-40 evaporative condenser located in the machine room cools the new building which houses the New Orleans district offices and store of Albert S. Aloe Co., distributor of hospital and laboratory equipment.

The air conditioning unit serves

to heat and cool the entire building. which comprises 11,000 sq. ft. of floor space. Air is distributed from this unit through circular outlets around the building columns.

The evaporative condenser serves a duel function, inasmuch as it also ventilates the machine room.

Heat load on this new building was minimized through the use of projecting concrete sun shades which act as baffles against the direct rays of the sun. These baffles will admit direct sunlight for only 15 minutes each day.

GRUNOW AUTHORIZED DEALERS ARE MAKING MONEY!

Build up your new box sales now with Grunow Service Business !

Write for Grunow **Authorized Service** in your territory.

GRUNOW 4313 W. Fullerton Ave., Chicago 39, III.

AUTHORIZED SERVICE, INC.

New K-20 VALVE lar REFRIGERANTS also Gas, Oil, Air and Water AVAILABLE TWO WIRE ANY VOLTAGE CURRENT AC OR DO FAILURE Wide range of applications. Silent opera-

proper size be selected for the job.

The condensing unit, evaporator, and controls are all connected up by the manufacturer, thus making the field installation very simple. Such installation consists merely of running electric lines to the motors operating the condensing unit and the air circulating fan, and running water supply and discharge lines to and from the condenser.

The room cooler usually works out very satisfactorily in small offices, hotel rooms, stores, taverns and restaurants.

DON'T SELL PRICE ONLY

Air conditioning, like other refrigeration, is only satisfactory when the equipment operates properly and when equipment with adequate capacity and reasonable safety factors has been selected for the job.

Everyone likes to make a sale. Low prices usually are the clinching arguments to close a deal, but don't sell air conditioning short of capacity requirements to get the price down to make a sale. You will find in the long run you are much better off to lose the business than to be tied in with a lame duck type of a job that just can't produce satisfactory results.

ALLOW FOR "EXTRAS"

Air conditioning is usually measured by human comfort. It can be quickly established whether or not comfort exists. An air conditioning job that doesn't produce comfort is like an automobile without an engine. You won't get very far with either one.

Sell air conditioning with surplus capacity. There are frequent hot spells of abnormal intensity; also every once in a while crowds of people far in excess of the normal numbers will be on hand.

If your air conditioning unit does not carry surplus capacity, it will fall down miserably whenever either of these conditions occur.

The cost of operating equipment with surplus capacity for the job is little, if any, higher than the operating cost of a marginal capacity unit, as the larger equipment with more capacity requires less operating time to handle the normal load conditions.

WATCH HUMIDITY

.......

Always bear in mind that the reduction of relative humidity. in areas where relative humidity is high during hot weather, results in far more comfort than the lowering of the temperature of the air. Some reduction of air temperature is, of course, necessary and naturally results from the operation of the equipment. A lowering of temperature 10 to 15 degrees is usually considered most satisfactory with the relative humidity ranging between 50 to 70%. Although 50 to 55% relative humidity is the ideal range, a percentage of 70% or lower is very pleasing when outside humidity is running 80% or

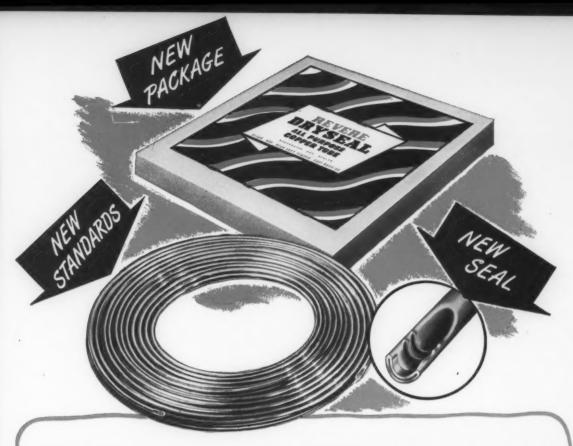
OPERATION DATA

The ideal refrigerant temperature should range between 40 and 25 F. The operating cycle should be long. The coil should not build up ice. With refrigerant temperatures of 25 to 40 F... top capacity of the condensing unit is being secured. The coil will also be free from ice accumulation, condensing moisture from the air efficiently.

Part 2 of this discussion of Room Cooler engineering and merchandising will follow in next month's issue.



Branch Offices and Distributors in Principal Cities



the important thing to know about refrigeration tube is

173 REVERE!

DEAD soft tube that's easy to bend ... that won't split at the ends when flared... that's what you always get when you order Revere Dryseal Copper Refrigeration Tube. And now Revere Dryseal Tube provides three new advantages:

New, more economical dimensional standards.

New double-groove mechanical seal. It is compact enough to pass through any opening large enough for the tube itself. It permanently keeps the interior of the tube clean and dry.

New red and blue package that protects the tube, takes up less storage space and is easier to unpack.

Revere Dryseal Tube comes in sizes from \(\frac{1}{2} \) " to \(\frac{3}{2} \)" O.D. and is packed two 50-foot coils to a package.

Ask your distributor for all the *new* facts on the *new* Dryseal—the easy-to-bend copper refrigeration tube that assures you of fine quality in every length you buy.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N. Y. — Sales Offices in Principal Cities, Distributors Everywbere.

CONQUER YOUR STAIRWAY PROBLEMS



With the KEEN 27 lb. adjustable appliance MOVER

—the world's lightest adjustable appliance mover, exactingly designed and quality built of magnesium . . only 13/2 pounds of added weight per man. All rubber wheels, rubber padding on all bearing areas. Handles with 3" ballbearing swivel casters, for say load-ing the same particles of the same particles of

KEEN manufactures a complete line of ap-pliance moving devices—many of them NEW to you.

Send for our Hustrated Catalogue!

KEEN MFG. CO. 40 DOGWOOD

HARLINGEN, TEXAS



MINI-VOLT

Instantly read voltages right off dial. 65 to 660 v. AC. Also DC. Virtually burnout-proof. Guaranteed for 10,000 hours' operation. Plastic case. 12" flexible test leads. And only \$2.50 list!

• Not only distinguishes between 110, 220 etc. volta, but measures line voltage close enough to show up to 2 or 4 volt drop between meter and load terminals on 110

meter and load terminals on 110 v. line.

No refrigeration serviceman need now be without definite knowledge of whether faulty operation of motors, magnetic valves, etc. is due to improper terminal voltage.

Checks for blown fuses, accidental grounds, circuit continuity. Useful for electrical trouble-shooting in general.

Security of electrical trouble-shooting in general.
 Warns of "live" wires and equipment, as protective measure.

It's a "must." Saves time, money, life and limb! Order from supplier, or from

INDUSTRIAL DEVICES.INC EDGEWATER 11.N.

TABLE-TOP UNIT . . .

Continued from page 37

fast freezing is accessible through an oven type, flush mounted door in the front panel of the cabinet. Temperatures as low as -20 F have been readily achieved in this freezing section using a conventional 1/16-hp condensing unit.

The fast freezing compartment will hold a large turkey and also doubles as extra storage space for frozen foods. Ice cube making capacity is provided, and several gallons of ice cream can be hardened in the quick freezing compartment.

A pilot model of this refrigerator has been in daily use for over two years, and has proven to be entirely practical. It has operated without any signs of mechanical failure.

If the prospective user already has a domestic refrigerator, McKellar's cabinet will provide from 6 to 8 cu.ft. of frozen food storage capacity in the space normally occupied by the kitchen table, thus making available home freezer facilities in many kitchens where addition of a separate unit would have been impractical.

BUSH NAMES RUSSELL SALES AS WEST COAST AGENCY

Completing the formation of a national and international sales engi-



neering organization, Bush Mfg. Co. has announced the appointment of the Russell Sales Co. of Los Angeles as its sales representative in the West Coast area.

Lew Russell

Lew Russell directs the activi-

ties of this organization from his headquarters in Los Angeles, but regional men will actively supervise Bush sales in the three major districts which the company covers. Vern Dyer will cover Washington and Oregon from his offices in Seattle; William Evens handles the northern California territory through his San Francisco headquarters; and Harry Seese travels the states of southern California, Nevada, and

Van D. Clothier of Los Angeles will continue to handle Bush condensers in the West Coast area, it has been announced.

SHANK VALVES

SOLVE MAINTENANCE **PROBLEMS**



All-Steel **GAUGE SETS**

All-Steel construction. Automatic shut off of liquid in case of glass breakage. Composition packing rings give long life, no-leak seal.

Semi-Steel SHUT-OFF **VALVES**

Highest grade nonporous metal — full size ports - clean cut threads. Double seated stem-Shank design base - perfect alignment. Long life packing ring.



See your jobber or write for prices.

CYRUS SHANK CO. 631 W. Jackson Blvd., Chicago 6, III.

6-DOOR FREEZER



Six separate food compartments are provided in this Norge Model HF-6 vertical type home freezer designed specifically for use by small families or city dwellers who need no more than this unit's 6.35 cu. ft. of storage space. Freezing coils are located within the shelves, so that each compartment becomes a freezer in itself. Space is provided for the insertion of labels on each compartment door, so as to identify the contents. This unit will hold as much as 210 pounds of frozen food. Designed as a companion piece to the Norge household refrigerator, it is powered by Norge's "Rollator" hermetic unit.

FISCHER TO DISTRIBUTE CROSLEY APPLIANCES

J. Geo. Fischer & Sons, Inc., Saginaw, Mich. wholesaler of major ap-



pliances, refrigeration equipment, and electrical supplies, has been appointed as a distributor for all Crosley products.

The Fischer firm will cover the following

Michigan coun-G. H. Fischer ties for Crosley, Alcona, Alpena, Arenac, Bay, Cheboygan, Clare, Crawford, Gladwin, Gratiot, Huron, Iosco, Isabella, Midland, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, Roscommon, Saginaw, Canilac, and Tuscola.

Founded in 1889 by George Fischer, the company was operated as an individual venture as bicycle manufacturer and retailer, machine shop, automobile sales, and miscellaneous retail lines until 1921. In that year, a partnership was formed with George H. Fischer and Ray W. Fischer, sons of the founder. The former now serves as president and the latter as vice president of the company. Roswell Burrows is secretary-treasurer.

Fischer's refrigeration division is under the management of William J. Culver, Jr., the electrical division under Lynn C. Pratt, and the appliance division under Claude H. Brace. A staff of fifty-two employees and seventeen salesmen is employed in the three divisions.

NERA LEADERS TO MEET IN CHICAGO

The fourth Leadership Conference of the National Electrical Retailers Association to be held at the Sheraton Hotel, Chicago on July 11, 12, 13 will focus attention on franchises and problems of selling major and traffic appliances and radios.

In addition the conference will discuss past progress and future procedure in connection with the NERA sales personnel plan, trade-ins, and reduced installation costs.

Approximately 200 NERA leaders from various sections of the country will attend the conference. Invitations

to participate in two manufacturerdealer panels are also being extended to all appliance and radio manufac-

TEMPRITE APPOINTS McINTYRE IN WEST

Temprite Products Corp., Detroit, has appointed McIntyre Sales Engineering Co. of Los Angeles as its factory representative in the states of California, Nevada, Utah and Arizona. V. J. McIntyre is president and John Zant is vice president.

MARLEY ADDS DRESSER TO LOS ANGELES STAFF

Marley Co., Inc. has moved its Los Angeles office to 810 South Spring St.

Harold A. Dresser recently joined the company's Los Angeles sales department, taking over his duties after a two months' intensive training period in the Marley home office in Kan-

Dresser, who has been associated with cooling tower manufacturers for 22 years, is a native Californian and resides with his family in Lynwood.





Stock and Sell Davison PA 100 Refrigeration Grade Silica Gel in bulk in the can with the blue label ... or in dehydrators charged by the cartridge manufacturer.

THE DAVISON CHEMICAL CORPORATION Progress through Chemistry BALTIMORE-3, MD.

PIONEERS AND DEVELOPERS OF SILICA GEL

Canadian exclusive sales agents for DAVISON SILICA GEL: CANADIAN INDUSTRIES LIMITED, Sales Division, Chemical Group



NEW PRACTICAL LA CROSSE ICE CUBE MAKER

CAGO



SPECIFICA-TIONS: Production Capacity—

21 quick release trays— 14 cubes each.

Storage Capacity approximately 966 cubes plus 294 cubes in trays.

Designed to meet the demand for both production and storage in one unit. La Crosse leads the field in this newest addition to their complete line of refrigeration models.

La Crosse Cooler Co.

2809 Losey Blvd. So., La Crosse, Wis. Export Representative: Melvin Pine & Co. 80 Broad St., New York 4, New York Cable Address: Eximport



Illustrating where insulation is used in the domestic refrigerator to keep cold in and heat out, this cutaway view of a modern household refrigerator manufacturing plant was prepared by Armstrong Cork Co. as part of its current advertising campaign in national consumer publications. Readers of THE REFRIGERATION INDUSTRY may obtain 21 x 22-inch full color enlargements of this production line picture by writing directly to Armstrong Cork Co., Lancaster, Pa. These enlargements are suitable for framing, and may be used in training personnel or as a means of providing graphic explanations to customers and prospects.

KELVINATOR'S ENGLISH PLANT PROVES BOON TO FOREIGN OUTLETS

Kelvinator's decision at the end of the war to provide an English source of supply for its foreign markets is proving a boon to distributors caught in the severe dollar pinch.

H. A. Lewis, vice president of Nash-Kelvinator Corp., recently returned from conferences at the new Kelvinator refrigerator plant in Crewe, England, reports that this plant is now operating on a flow production basis.

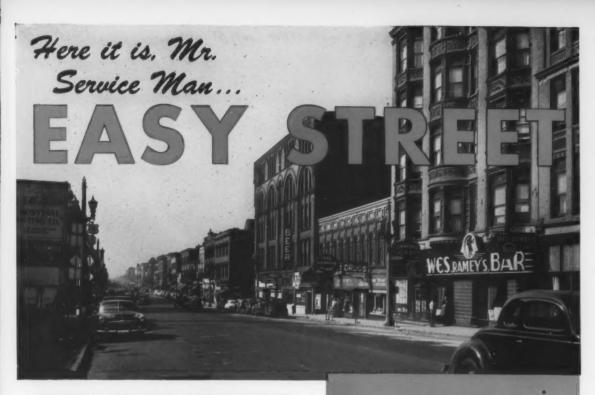
"When the war ended," Lewis explained, "we were aware that the British Empire and many other countries had consumed most of their dollar resources fighting the war. It was clear that in many of the markets from which England was a heavy importer, sterling earnings would greatly exceed dollar income. This meant that not only would England gravely need exports, but also that our distributors in many parts of the world would need a sterling source of supply."

To provide such a source, Lewis said, Nash-Kelvinator at the close of the war purchased Kelvinator, Ltd., of England, from the corporation's Canadian subsidiary, and immediately began to develop it as a major manufacturer of refrigeration equipment in Great Britain. Plants covering approximately a quarter of a million square feet of floor space were leased at Crewe from the British government and manufacturing operations set up under the direction of engineers from Kelvinator's American plants.

A TECHNICAL refrigeration library is being gathered in Detroit for donation by Nash-Kelvinator Corp. to the public library of Crewe, England.

The rapid development of the new Kelvinator refrigerator plant at Crewe has stimulated a strong interest on the part of the townspeople in the principles of refrigeration and in refrigerator manufacturing methods.

According to John Bennett, assistant export manager of Kelvinator, the public library of Crewe has been besieged by requests for technical literature as a result of the creation of a new industry by Kelvinator in Crewe. Since little material was available, an appeal was made to Kelvinator, and refrigeration experts in the United States now are gathering together a sizeable refrigeration library in an effort to satisfy this demand.



WHERE HARDWARE REPLACEMENT BRINGS THREE-FIGURE SALES

It's a street of restaurants, taverns, food markets, fountains. There's one just like it in your town . . . where YOU can double or triple your average profit per service call.

"Easy Street" for YOU... because its occupants are having a tough time with broken, loose-fitting, tough-looking hardware on coolers, back-bars, and display cabinets. Easy Street for YOU... because you can salvage their losses and equipment with handsome, efficient, smooth-working, new hardware from Grand Rapids Brass, and pick up a nice profit in addition to service charges.





Get This Installation Manual Today!

We've made it easy for you to sell and install new hardware on commercial cabinets. Our new installation manual gives full instructions. Tells how to handle a prospect . . . provides simple installation methods and short-cuts . . . gives scale working drawings and offset data. Keep a copy with you ALWAYS. Get it from your jobber or write direct . . . it's FREE.

JOBBERS: Double your hardware profits! Get behind this replacement drive! Drop us a line . . . we'll see that you get full information.

Grand Rapids Brass Company

Makers of Dependable Refrigerator Hardware for over 40 Years

Grand Rapids 1, Michigan

Check with Ranco FIRST...

- SPECIALISTS IN REFRIGERATION
- MORE RANCO CONTROLS IN USE
- . DEPENDABILITY
- . LESS STOCK TO CARRY
- GREATER CUSTOMER SATISFACTION
- . MORE PROFIT FOR YOU

..and check with Your Ranco Wholesal

Your Ranco wholesaler carries the complete line of Ranco Refrigeration Controls, each type designed and built for a specific type of service. For the dependable, trouble-free service that keeps your customers satisfied—and increases your profits—check with your Ranco wholesaler first.





Ranco Inc.



World's Largest Manufacturers of REFRIGERATION CONTROLS

THE SERVICE MAN'S DEPARTMENT

Warren W. Farr

Another Fatal Refrigeration Accident

Recently a refrigeration mechanic was instantly killed on a small dairy farm near San Mateo, Calif., by the explosion of a small Freon compressor. Investigation by the Refrigeration Contractors Association of Northern California with the man's employer and examination of the cast iron compressor head which blew off has brought out some revealing evidence.

"Our investigation," reports the association, "is that the mechanic was doing a crankcase oiling job with the compressor running at full speed. Apparently he failed to check the amount of oil the machine could take and was pouring the oil into the crankcase from a can, overloading the case.

"Several of our members have ex-

pressed the theory that the cylinders and pistons flooded, building up compression to the point where something had to relieve the stress. Anyway, the twin cylinder head blew off the compressor, striking the mechanic in the head, killing him instantly. Moreover, his employer reported that both the intake and discharge valves were found closed immediately after the accident.

"The compressor head which blew off, now in the hands of the Industrial Accident Commission, shows a clean, fresh break without apparent structural weakness. We must leave it to our members to draw their own conclusions as to the probable cause of the accident."

Sell It Simple—and Cheap!

You can save your prospects a lot of money-and save yourself a lot of customers-by using a little common sense and ingenuity in the application and installation of packaged air conditioning equipment.

This matter of economical installation is a most important factor in attracting the greatest number of packan investment in business improveare the customers who can economically afford to invest in this particular business improvement.

your knowledge and make full use of your sales tools to assure your prospects of simplified installations which will result in the lowest possible initial cost.

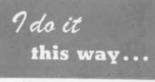
Suppose, for instance, that a prospect says, "I don't want my packaged air conditioner installed on my sales floor because it will not look well with my other fixtures." You are doing this prospect an injustice if you don't explain to him the fallacy of this decision.

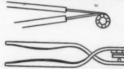
In the first place, if you install the packaged unit in a back room, or back of a curtain partition, or in the basement, it is going to be necessary to use ductwork that might not otherwise have been needed. In many cases your pumbing and wiring costs will increase as well. All this is going to increase the initial cost of the air conditioning to the prospect, making it a less desirable investment.

Furthermore, by removing the

aged air conditioning customers. As ment, packaged air conditioning carries a certain definite valuation. The higher the initial costs are, the fewer

So why not take full advantage of



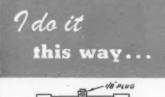


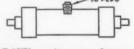
Y work is practically all out in M I work is practically all out in the country, and often I run across a situation that has to be handled by improvised methods, simply because no supply houses are handy and I can't run in and pick up the equipment I need. Here are a few things I've found that work in a pinch of this sort.

1. Motor starting switches, when you are miles from nowhere, can, when the points are burned out completely, be "manufactured" in a few minutes by cleaning with a file, fluxing, and putting on a drop of silver solder. A little practice and you only need one swipe across with a file to have a point practically as good as a new one.

2. Joining motor leads is made easy by the use of terminal pliers (as sketched) plus a drop of solder, if the joint is to be made extra good.

H. J. Huber, Bothell, Wash.





M ANY service men throw away certain types of driers because they are difficult to refill since the ends are threaded and soldered. I have a method that is very sim-

ple. It works this way:
1. Drill a 3/8" hole in the center

of the drier (as sketched). 2. Use a ½" pipe tap so that I can screw in a ½" brass plug for a

snug fit; then sweat it. T. J. Schiavone, Bridgeport, Conn. Editor's Note: This idea may work out all right-but the way we look at it (except in unusual cases) it's probably an even better idea to install a new drier.



packaged air conditioner from the sales area the customer would completely lose any advertising benefits which might be derived from the obvious evidence that his store is air conditioned. Experience has shown that the air conditioning unit, standing on the sales floor in full view of customers, creates a psychological effect of improving their comfort.

Should the prospect fear that installing the air conditioner inside the conditioned area will detract from the appearance of that area, it should be simple enough for you to show him or tell him how admirably this type of unit can be blended into almost any style of interior decor, thus making the unit an integral part of the decorative scheme.

HELP WANTED

. . . By your fellow refrigeration service engineers. They can use your installation and applications ideas on refrigeration and air conditioning, your short cuts, shop practices, etc.

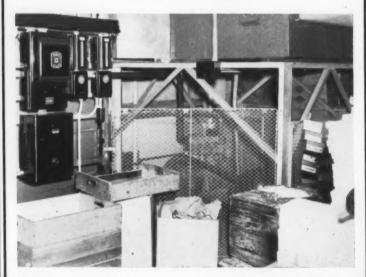
And there's money in it for you. REFRIGERATION INDUSTRY pays \$5 for each idea published. Send yours to

Here's How Editor
The Refrigeration Industry
1240 Ontario St.
Cleveland 13, Ohio

ADMIRAL 15e DIVIDEND

Admiral Corp. has announced a 15c dividend payable June 30 to Stockholders of record at the close of business June 15.

GIVE 'EM AIR!



HOW many times have you been called upon to install a condensing unit in a location such as this—a crowded stockroom, a busy factory corner, or a basement piled high with crates of merchandise or containers of waste materials?

Many times, of course. And especially if the condensing unit is air cooled you have realized the absolute necessity of providing ample "breathing space" to facilitate the necessary circulation of air around the equipment. Regardless of the type of equipment which you may have installed in such surroundings, you no doubt have often wondered about how you

might protect this valuable property from any accidental damage.

In either case, here's one answer to the problem. Simply construct a wooden or metal frame to which removable wire mesh panels can be attached as indicated in the accompanying illustration.

Such an arrangement not only protects the condensing unit against bumping or "choking" caused by careless handling of merchandise stock, but also permits ready access when and if service to the equipment is required. Stunts like this cost little but mean a lot, both to your customers and to you!

OPPORTUNITIES

Classified Advertising Section

Rates: for "Positions Wanted" \$3.50 minimum, limit 25 words. For all other classifications, \$3.50 minimum for 25 words, each additional word 10c boldface type or all capitals, \$6.00 minimum for 25 words, each additional word 15c; limit 50 words. Box addresses count as five words.

HELP WANTED

REFRIGERATION COMPRESSOR DESIGNER

Fine opportunity for a Senior Design Engineer. Prefer man having mechanical engineering degree and five years experience in small refrigerant compressor design and development. Hermetic compressor design experience would be excellent. Will pay a good salary to the right man. In reply state fully your experience, education, desired salary and age. Address Personnel Division, Carrier Corporation, Syracuse 1, New York.

BUSINESS OPPORTUNITIES

"COMMERCIAL REFRIGERATION BUSINESS, established 1920. Selling Nationally known equipment. Serving parts of three states in the Mid-South, with about one million population. About \$100,000 gross in 1947 and showing improvement in 1948. Will have to retire from active business. This is a wonderful opportunity for the right man." Box 7348.

POSITIONS WANTED

Selected group of men, graduates of well-known trade school, desire employment in Refrigeration Field. Will travel anywhere. Qualified in domestic and commercial refrigeration. Reliable. Contact Placement Dept., Eastern Technical School, 888 Purchase Street, New Bedford, Mass.

TRAINING DIRECTOR-TECHNICAL EDITOR: Manager Graduate Engineer School for top manufacturer refrigeration and air conditioning equipment and Director and Instructor ranking Vocational School for Service and Installation men. Editor many specifications, applications and service manuals published by billion dollar corporations. Fifteen years' executive positions. Outstanding record for results substantiated by reference all employers. Age 42. Member ASRE and ASME and Registered Professional Engineer. Salary requirements reasonable. BOX 7248, The Refrigeration Industry.

Refrigeration service engineer desires position as manufacturers field service representative. Thirteen years experience including considerable with distributor. 35 years old. Free to travel. Box 7148, Refrigeration Industry.

FOR SALE

Stop Terminal Leaks in Crosley Sealed Units by using the Jiffy Terminal. Easy to install, no special tools needed, can be installed in a few minutes without removing unit from cabinet. Set of three terminals, \$4.00 or see your jobber. Detroit-Sealed-In Parts Co., 19191 Rogge, Detroit 12, Michigan.

FOR SALE—Air-cooled and Water-cooled remanufactured condensing units, ½ up to 2 HP. Write for particulars, Edison Cooling Corp., 310 East 149 St., Bronx 51, N. Y.

SEALED CROSLEY TERMINALS. Installed from the outside in a few minutes without opening the compressor or removing unit. No special tools needed. Stops leaky terminals on F-12 units. Part no. 1020 short model—for short Crosley terminals (F-12 compressors with 4 mounting legs). Part no. 1020 long model—for long Crosley terminals (F-12 compressors with 3 mounting legs). \$5.25 set of three. Immediate delivery. Money-back guarantee SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

"EXCELSIOR BEER PUMPS—made since 1933, are again available in 2 sizes: ¼ HP and 1/3 HP. Attractive prices for Dealers." Excelsior Machine Co., 2601 Kutztown Road, Reading, Pa.

For Sale—Steam dr.ven horizontal ammonia compressor excellent condition still in operation but to be replaced by an electric unit. 15½ x 30" Wolfe Linde Compressor with 18" x 42" Vilter Corliss Engine for 125 # steam pressure and atmospheric exhaust. Capacity at max. speed 60 RPM and 20# Suct. Press. and 155# Cond. Press. 88 tons refrigeration. \$3,500.00 as is where is. Inquire Atlas Brewing Co., 1503 W. 21st St., Chicago 8, Ill.

SILICA GEL in sealed one-pound metal containers; \$1.00 per pound. Order Type 210. Sold only in lots of 10 cans. Andrew Corporation, 363 E. 75th St., Chicago 19, Ill.

Design and specification changes allow the following new equipment to be offered for sale:

530 ½" Copper Elles......10c each 175 CH door switches.....25c each 150 Redmond sealed motors

PHILCO DISTRIBUTORS SHIFT PERSONNEL

John D. Hawkins, who has been manager of the Detroit organization of Philco Distributors, Inc., for the past three years, has been appointed general manager of the Philadelphia division.

Hawkins has been associated with the company for more than 10 years. He will now head Philco wholesale operations in the country's fourth largest market.

Sol J..Schiff, who has been general manager of the Philadelphia branch of Philco Distributors, Inc., has been appointed a wholesale distributor of Philco products to serve the Providence, R. I., area. His new firm will be known as Tri-State Wholesalers, Inc., with Mr. Schiff as president and general manager.





VIRGINIA REFRIGERANTS



THERE ARE NONE BETTER

THEY'RE

consistently pure

consistently sure

50 YEARS OF SERVICE TO INDUSTRY



West Norfolk • New York • Boston • Detroit VIRGINIA SMELTING COMPANY, WEST NORFOLK, VA.

Distributors for Kinetic's "Freon" Refrigerants
VAILABLE FROM WHOLESALERS COAST TO COAST

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Your service work is easier... because (h) Refrigeration Valves are Dependable

DEPENDABLE

(fp) Model 270

Handy bracket

permits simple rigid

mounting in any of

several positions.

Solenoid Refrigerant Valve

DUAL VOLTAGE COIL for

115-230 volts, 50 60 cycles Capacity liquid line 18.5 toni



A-P DEPENDABLE Model 270 Solenoid, with its simple, positive "Pilot Operation" requires only minimum power. Pressure holds the valve tightly shut. When current is applied, the plunger is pulled part way up, opening the pilot port and allowing pressure to leak to the pressure side. Then, with pressure above the piston reduced, the pressure below the piston opens the main valve port. The plunger, moving on upward. holds the piston away from the port, requiring no pressure drop to hold the valve open. A three-point stop, used in conjunction with a "shading coil" makes operation quiet and vibrationless. Manual opening stem is provided for use in case of current failure.

If you haven't already used the DEPENDABLE A-P Model 270 Solenoid to make your work easier, ask your jobber about it now — or write for bulletin No. 403.

AUTOMATIC PRODUCTS COMPANY

2486 NORTH THIRTY-SECOND STREET

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THE ERESIDERATION SERVICE ENGINEERS

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In the case of REFRIGERATION INDUSTRY, the C. B. P. Plan (Certified Buying Power) means more than 27,000 readers who are "known" buyers. These individuals are hand-picked from the customer-prospect lists of 52 selected refrigeration and air conditioning equipment jobbers located in key marketing areas. To the CCA guarantee of QUANTITY circulation, REFRIGERATION INDUSTRY thus adds the C. B. P. QUALITY guarantee of authenticated, "known" reader-buyers. Here is the needed sales link for the advertiser.

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Each of REFRIGERATION INDUSTRY'S 52 refrigeration equipment jobbers subscribes to the magazine for his active customers and prospects. He pays us \$1.20 a year for each subscrip-

tion. This guarantees that each REFRIGERA-TION INDUSTRY reader is interested in the editorial contents of the magazine, and—equally important—is an active, authenticated buyer of refrigeration and air conditioning equipment . . . the jobber being the authenticating agent.

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"Certified Buying Power" is a powerful lever which you can use to raise your sales volume.

Other "C. B. P." magazines published by The Industrial Publishing Company are OCCUPATIONAL HAZARDS, for the industrial safety field, INDUSTRY and WELDING, for the welding field, and FLOW, for the material handling field.

THE REFRIGERATION INDUSTRY

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CLEVELAND 13, OHIO